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The University of Alberta

Editor's Message

The relevance of A.J.E.R. to its readers depends in large part on manuscript assessments provided by specialists in the various fields of education. Such assessments are requested and provided with no compensation to those making the assessment. I wish to use this page to acknowledge assistance given to A.J.E.R. this past year by the following:

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A Comparison of Good and Poor Grade Four Readers on Comprehension of Perceptual Connectives in Discourse

There are many linguistic cues that aid the reader in the synthesis of discourse relationships when involved in comprehension of written information. This study focusses on one of these linguistic cues, the perceptual connectives which involve temporal and spatial relationships. The sample was selected on the basis of performance on reading and I.Q. tests. Subjects were dichotomized into two equal groups of good and poor readers according to their comprehension scores. I.Q. was held constant. Test passages were selected at instructional level for the poor readers and modified so that one version contained perceptual connectives and one version did not. Each subject was required to read silently each version of the passage and give a verbal recall. These recalls were analyzed according to a category system developed by Fagan (1978, 1980) to determine the nature of information recalled. The recalls were also examined for perceptual connectives stated by each subject. The findings indicated that there were no significant differences between good and poor readers in the nature of information recalled or in their use of perceptual connectives. The type of passage, however, did have a significant effect on the number of perceptual connectives given in the recalls. More were given if they were present in the passage read.

Although research on comprehension of discourse was begun by Bartlet (1932), there were few other studies of connected discourse until the early 1970's. Some recent investigations (Drum, 1978; Irwin, 1980; Kintsch & van Dijk, 1978; Marshall & Glock, 1978; Tierney, Bridge & Cera, 1979) have examined the effect of structure among the ideas presented in a text on what the reader learns and retains from the text. Tierney, Bridge and Cera (1979) have noted that the

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essential strategy is both abstractive and constructive where the readers glean relevant units from the text, summarize them, and process the input in association with their background knowledge for a meaningful interpretation of the author's message.

Recall is being used to give some indication of comprehension processes. Although several systems for analysis of text and recall have been developed, the system devised by Drum and Lantaff (1977a, 1977b) changed the focus to the reader's production. They analyzed both the text and the recall propositions and then compared them to see where the readers' construction differed from the original text in terms of both the quantity and quality of information. The recall propositions were categorized into one of five recall categories based upon their relationship to those in the text (Drum & Lantaff, 1977a). These categories appear to be one way of investigating the nature of unaided recall and of understanding the comprehension process.

Since the initial work of Drum and Lantaff (1977a), Fagan (1979, 1980, in press) has continued to modify and refine the original categories and to suggest other units for analyzing text and recall. The analysis developed by Fagan was used in this study to determine whether there are differences between good and poor readers in the nature of information recalled.

Some studies have identified differences in the recalls of high and low reading achievers. Drum and Lantaff's (1977b) findings indicate that able readers remember more information which is synonymous with the text or is put together in new ways, and recall less inferential information based on what is read in the text than do below average readers. The studies of Furniss (1978) and Beebe and Malicky (1982) have found that there are some quantitative and qualitative differences in the verbal recalls of students which can be identified using the recall categories. However, Brake (1981) and Clarke (1981), who also investigated the nature of comprehension of high and low achieving students, found that there were no significant differences between the groups in the type of information produced in the recalls.

Some studies (Cromer, 1970; Weinstein & Robinovitch, 1971; Isakson & Miller, 1976) that have used good and poor readers have indicated that students may fail to comprehend because of inability to process the linguistic cues in written material. Their results suggest that good and poor comprehenders may differ in text organization processes. Poor readers appear to be more concerned with individual word structures whereas good comprehenders are more effective in their use of syntactic elements to extract meaning. However, there are also indications from some recent studies that similar comprehension strategies may be used by readers of different ages and abilities.

Neilson and Braun (1978) who compared good and poor readers found that the presence or absence of linguistic connectives in passages did not cause comprehension to vary significantly. Such findings support conclusions of researchers such as Ryan and Semmel (1969), Sullivan (1973), and Thorndike (1973) that the same basic strategies are used by both types of readers in processing information. Thus some researchers have found that readers are more sensitive to relationships between informational units that are cued by connectives while others have found that there is no significant difference in the comprehension of passages with or without connectives. Since findings of studies investigating the nature of comprehension processes involving high and low

reading achievers have been contradictory, this study was conducted to add to the body of information in this area.

Purposes of the Study

This study involved good and poor readers in grade four and was designed to compare their performance on use of perceptual connectives in recalls and on the nature of information recalled from passages that contained or did not contain perceptual connectives. Perceptual connectives aid in synthesis of time and space relationships.

Procedures

Sample

Forty grade four subjects attending schools in the Edmonton Catholic School District who met the set criteria according to intellectual ability and reading achievement were selected.

Scores from the Non-Verbal Subtest of the *Canadian Lorge-Thorndike Intelligence Test*, Level B, Form 1 (1967) were used to select subjects who were within the average range of intellectual ability. Only the Non-verbal scores were used to ensure that the I.Q. did not reflect reading achievement. The mean I.Q. scores for the good and the poor reader groups were 103 and 98.3 respectively. A t test for independent means confirmed that there were no significant differences in intellectual functioning between the two groups ($t = -1.64$, $df = 38$ $p > .05$).

Since the nature of information given in unaided recall was considered indicative of comprehension in this study, test results from the comprehension section of the *Gates-MacGinitie Reading Test*, Level C, Form 2, Canadian Edition (1980) were used to determine the two achievement groups. Good readers were those subjects whose comprehension test score placed them between the 70th and the 90th percentiles (Mean grade score 6.0). Poor readers were those subjects whose comprehension test score placed them between the 10th and the 30th percentiles (Mean grade score 2.6). Although an attempt was made to have an equal number of boys and girls in each achievement group, the poor reader group contained more males than females. There were twelve males and eight females. This, however, was considered a representative sample from the available population because there are more boys who have difficulty in reading. According to Bannatyne (1971) the proportion of boys to girls may range from 3:1 to 10:1. There were ten males and ten females in the good reader group. Subjects with non-English backgrounds as well as those with severe speech, hearing, or emotional disorders were not included in the sample.

The Experimental Test Instruments

Two passages from the *Standard Reading Inventory Test* (McCracken, 1966) were selected and modified. These passages were at a grade three level to ensure that the poor readers would not be reading at frustration level. Results from a pilot study conducted earlier confirmed that the passages selected were at an appropriate instructional level for the poor reader group.

The content of the passages was narrative in nature. Each passage was rewritten so that in one version the perceptual relationships were explicitly indicated by the connectives "where," "when," "while," "after," "before," "then," and

"as." In the other version of each passage, the perceptual connectives were removed. Each set of the same modified passage (+perceptual connectives, -perceptual connectives) contained the same information and the same number of clausal units.

Procedure of Administration

In order to control for order effects of passage type, subjects in each reader group were randomly assigned to four subgroups for test administration. Each subject was asked to read silently one passage without connectives and the other passage with connectives. Following the silent reading of each passage, subjects were requested to give an unaided verbal recall. Each administration was done by the examiner on an individual basis in a quiet setting and the responses were tape recorded for transcription.

Analysis of Recalls

After the recall protocols were transcribed, they were analyzed as based on analysis by Drum and Lantaff (1977a, 1977b) and Fagan (1978, 1980). The sentences in the passages and recall protocols were divided on the basis of syntactic criteria into mazes and clausal units. Compound subjects and/or predicates within a clausal unit were also divided and considered as separate linguistic units. In addition incomplete clausal units were included in the analysis. They generally lacked a subject, a verb, or both, and served to specify particular information, elaborate an antecedent, make additional comments, or establish a referent for an ambiguous item (Fagan, 1980).

Each clausal unit in the protocol was compared to the input text and assigned according to its semantic content to one of the following types of informational units: text specific, information recalled verbatim from the text or that is synonymous with text information; text entailed, information put together in new ways, or that is a summary of at least two units of information from the text or is an inference; text erroneous, information which the reader has confused or combined erroneously; or text external, general information which may not have a specific relationship to the text, or is a convention of oral recall (Fagan, 1980).

Fagan's (1980) text experiential category was subsumed into the text entailed category. Very few clausal units fell into this category and the nature of text experiential information experiences related to the theme of the text passage, or the reader's knowledge of the world, was considered as synthesis of background knowledge and textual information.

To assure reliability of the coding of the data by the researcher an independent judge also analyzed ten percent of the recalls for division into clausal units and assignment to categories according to the type of informational unit. Interrater agreement was calculated by using the Arrington Formula (Fiefel & Lorge, 1950). The percentage agreement between the researcher and the independent judge was 97.87 for the clausal units and 92.70 for the recall informational units.

Statistical Treatment of the Data and Findings

Hypotheses were formulated to assess significant differences in the nature of information recalled by good and poor readers on passages with perceptual connectives present and passages with these connectives removed, as well as to

determine significant differences in the total number and the number of different perceptual connectives generated in the unaided recalls. Results were analyzed by two-way analysis of variance with repeated measures on passage types.

The independent variables were the reading achievement groups and types of passages. Dependent variables were text specific units, text entailed units, text erroneous units, text external units, total perceptual connectives, and different perceptual connectives.

TABLE 1

ANALYSIS OF VARIANCE FOR TEXT SPECIFIC UNITS RECALLED

N=40 Source of Variation	SS	DF	MS	*F*	*p*
Reading Achievement Groups	18.051	1	18.051	3.693	0.062
Passage Types	1.250	1	1.250	0.245	0.623
Interaction	0.200	1	0.200	0.039	0.844

The results of two-way analysis of variance to test the informational units recalled by good and poor readers are given in Tables 1, 2, 3, and 4. The data revealed no significant differences between the groups for information recalled in any of the categories (text specific, text entailed, text erroneous, or text external). The type of passage read also had no significant effect on the comprehension of

TABLE 2

ANALYSIS OF VARIANCE FOR TEXT ENTAILED UNITS RECALLED

N=40 Source of Variation	SS	DF	MS	*F*	*p*
Reading Achievement Groups	14.448	1	14.448	1.078	0.306
Passage Types	0.791	1	0.791	0.168	0.684
Interaction	0.811	1	0.811	0.173	0.680

TABLE 3

ANALYSIS OF VARIANCE FOR TEXT ERRONEOUS UNITS RECALLED

N=40 Source of Variation	SS	DF	MS	*F*	*p*
Reading Achievement Groups	6.612	1	6.612	3.186	0.082
Passage Types	1.013	1	1.013	0.631	0.432
Interaction	1.513	1	1.513	0.943	0.338

the two reading groups. The test for the presence of interaction of the independent variables (types of readers and types of passages) revealed no significant interaction.

TABLE 4

ANALYSIS OF VARIANCE FOR TEXT EXTERNAL UNITS RECALLED

N=40 Source of Variation	SS	DF	MS	*F*	*p*
Reading Achievement Groups	0.013	1	0.013	0.025	0.875
Passage Types	0.313	1	0.313	1.309	0.260
Interaction	0.113	1	0.113	0.471	0.497

Tables 5 and 6 present results assessing differences between the reading achievement groups and between the types of passages read for the perceptual connectives recalled. There was no significant main effect of reading achievement groups on the total number or the number of different perceptual connectives recalled. Interaction effects between types of readers and types of passages on the perceptual connectives was not significant. However, the type of passage read did have a significant effect on the total number as well as the number of different perceptual connectives recalled.

TABLE 5

ANALYSIS OF VARIANCE FOR TOTAL NUMBER OF PERCEPTUAL CONNECTIVES RECALLED

N=40 Source of Variation	SS	DF	MS	*F*	*p*
Reading Achievement Groups	0.450	1	0.450	0.079	0.780
Passage Types	20.000	1	20.000	8.038	0.007*
Interaction	0.450	1	0.450	0.181	0.673

* $p<.01$

TABLE 6

ANALYSIS OF VARIANCE FOR THE NUMBER OF DIFFERENT PERCEPTUAL CONNECTIVES RECALLED

N=40 Source of Variation	SS	DF	MS	*F*	*p*
Reading Achievement Groups	0.050	1	0.050	0.069	0.795
Passage Types	11.250	1	11.250	24.152	0.000*
Interaction	0.050	1	0.050	0.107	0.745

* $p<.01$

Discussion of the Results

Complete understanding of text depends on the ability of the reader to detect, interpret, and synthesize relationships between informational units. This study was designed to examine the differences in the comprehension of textual information of good and poor readers on two types of passages. However, results suggest that the reading achievement groups did not differ in abstracting information from text or in text organization processes. Passage types also did not affect the comprehension of the information read by these achievement groups. It appears then that both good and poor readers used similar comprehension strategies regardless of the type of passage read (connectives present or connectives absent). These findings support Ryan and Semmel's (1969) and Sullivan's (1973) conclusions that all types of readers appear to use the same strategies in organizing and relating information. They state that a reader uses his knowledge of language and the context in testing hypothesis about the information in the text rather than reacting passively to each unit.

In this study, the passages were selected to be at instructional level for the poor readers so that they would have an adequate understanding of the task. A pilot study confirmed that the passages were at an appropriate instructional level; thus they were able to be active readers and reconstruct the meaning of the connected discourse. This may account for the finding that both types of readers processed information similarly.

Studies such as Cromer's (1970), Weinstein and Robinovitch's, and Isakson and Miller's (1976) contrasted good and poor readers to compare their syntactic/semantic processing of information. They concluded that there was a difference between the two groups in their ability to make use of syntactic/semantic cues in the sentence structures and that poor comprehenders have difficulty perceiving relationships between the words in a passage and integrating them into a meaningful whole. However, the data in this study revealed that there was no difference in the ability of good and poor readers to understand relationships between information units denoted by perceptual connectives. It is possible that their findings might have been replicated in this study if the passages selected had not been at instructional level for the poor readers.

Specific to assessing the nature of comprehension processes in this study was the understanding of logical relationships in discourse. That good and poor readers understand logical relationships equally well supports the findings of Miller and Hosticka (1978) and Neilsen and Braun (1978). Their studies had compared good and poor readers in their understanding of logical connectives as well.

As was done in this study, Neilsen and Braun (1978) also had assessed passage effects (with and without connectives) on the reader's comprehension of connectives. Their findings were confirmed in this study. Subjects were able to understand logical relationships in discourse regardless of whether they were implicit or explicit in passage context. Thus, as Neilsen and Braun (1978) had concluded, the presence or absence of linguistic connectives in the surface structure of text does not affect the comprehension of interpropositional relationships in the passage content of text. This suggests that logical relations are encoded as part of a schemata embodied in discourse and can be inferred if they are absent.

According to the data, there was no significant difference between achievement groups on generation of perceptual connectives in the recalls. Both good and poor

readers used connectives in their recalls after reading both types of passages. However, the type of passage read had a significant effect on the number of perceptual connectives produced. More perceptual connectives were recalled when the passage with explicitly stated connectives was read. Thus the presence of connectives cued ability to remember them and facilitated their use in the production of more complex sentences.

Summary and Implications

In this study, an attempt was made to identify comprehension processing differences between good and poor grade four readers and to investigate their understanding of perceptual connectives. There was no difference in the comprehension of passages, whether connectives were implicit or explicit, between the good and poor readers. Therefore, results appear to justify the conclusion that for both good and poor readers, reading comprehension requires an active, attentive, and selective reader who interacts with the text to extract and reconstruct meaning. An important variable contributing to being this type of reader appears to be the adjustment of material to an appropriate reading level. Therefore, researchers must be careful that conclusions regarding differences in comprehension processes are not caused by having the low achievers at frustration level. Teachers should ensure that basic reading instruction is provided at an appropriate level as this appears to be crucial in reconstructing meaning of text successfully.

Logical connectives are difficult to define because their meaning comes from their linkages with other words and concepts. In this study, the focus was on the comprehension of perceptual connectives in written language. Results showed no difference between the good and poor readers' understanding and use of them. The subjects in this study used them effectively to synthesize time and space relationships in the passage. This may be because the passages were carefully selected so that they could interact meaningfully with the information. The type of passage read, however, did influence the subjects' use of connectives in the recalls. Because connectives are synthesizers between informational units, it appears, then, that there may be value in using connectives in written material, since children can use them as aids to synthesize information. When connectives were stated in passages, subjects gave a greater number and variety of connectives in the recalls. Thus, use of connectives also results in finer meaning distinctions between informational units.

As the findings of this study indicated no apparent differences in text processing between good and poor readers, this study has raised more questions than it has answered regarding the development of comprehension processing strategies, for example: Will syntactic/semantic factors be a problem only when content is unfamiliar or when it is not at instructional level? At what point do readers use linguistic cues such as connectives to comprehend syntactic structures that are unfamiliar? It may be warranted to find out what types of syntactic structures do in fact create difficulty for readers at specific stages of development. Information about what causes readers to "break down" and be unable to synthesize the details of discourse relationships would lead toward more effective instruction and development of appropriate instructional materials.

This study was conducted under the supervision of Dr. Grace Malicky, Associate Professor of Elementary Education at the University of Alberta.

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The Effects of Age, Group-Size, and Classroom Social Homogeneity upon the Extinctive Properties of Implicit Reward Conditions

The previously noted extinctive effects of Implicit rewards were investigated to determine the contribution of teacher-presence, group-size and age-level upon responses. The task activity of handwriting performance was measured over Baseline, Direct contingent reward and Implicit reward conditions for elementary grade children from normal classes. Extinctive reactions present under Implicit reward conditions were significantly stronger for groups of eight than for paired subjects. Age-level factors were not significantly related to extinctive responses. Implications for general operant applications and school-based interventions in particular are discussed in terms of subjects' cognitive evaluations of reward conditions.

When discussing the determinants of behavior, Bandura (1977a, 1977b, 1978), Bowers (1973) and Rosenthal and Zimmerman (1978) have suggested that "behavior results from the interaction of persons and situations, rather than from either factor alone" (Bandura, 1977a, p. 9). As such this constitutes a break from more traditional operant explanations of behavior and suggests the effective presence of cognition in the typical response-consequence bond. The reactions of persons to rewards have been previously documented rather exhaustively in terms of operant methodology and the more cognitively-oriented psychologies. Equity theory (Adams, 1965; Adams & Freedman, 1976), suggests that the inputs persons will make in any situation are determined by not only the consequences *per se*, but the relative equity of those consequences to inputs by self and others. Previous literature on this issue suggests that there are a number of variables which deserve consideration in inequitous reward situations (see Adams & Freedman, 1976, for a review), but there are few studies in which such effects for

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typical classroom academic tasks are specifically examined. Classrooms are miniature societies and the environment in which most people learn the principles of social reward interactions (Dreeben, 1968; Jackson, 1968). As such, it could be expected that the allocation of consequences within classrooms deserves special consideration, yet there is evidence that teacher-given rewards are sometimes haphazard in their equity (Sharpley, 1979). One particular example of inequity in rewards occurs in the situation of "implicit rewards." As defined by Bandura (1971, p. 234) under conditions of implicit rewards

> Individuals perform responses that are explicitly reinforced in some members and implicity rewarded or punished in others. When the same deserving performances are praised in one case and ignored in the other, the slighted person is not only exposed to observed outcomes, but he experiences immediate direct consequences to his own behavior, which can have rewarding, punishing or extinctive effects.

(This condition is quite distinct from "vicarious rewards" wherein only the model performs the task and the observer watches: under "implicit rewards" *both* subjects perform the task but only one receives direct consequences.)

A study performed to investigate the effects of implicit rewards for a typical academic task in a normal classroom demonstrated powerful extinctive effects associated with implicit rewards. These effects resulted in a performance decrement by both those subjects who were receiving direct contingent rewards as well as those who were performing the task and not receiving these rewards (Sharpley, Irvine & Hattie, 1980). These results have powerful implications for both classroom dynamics and more general operant applications.

The present study was designed to further investigate implicit reward effects by isolating several variables hypothesized to contribute to subject responses. Firstly, the presence of extinctive effects in classroom situations may be a function of the social homogeneity of the classroom and the status of teacher administered rewards. The previous study cited above (Sharpley et al., 1980) was conducted within two typical elementary school classrooms in a religious school where teacher-involvement in extracurricular activities (camping, sports teams, pastoral care programs, etc.,) was standard. As such, the level of teacher initiated motivation shown by children was high, and the cohesiveness of the classes perhaps stronger than in other groups. Secondly, Piaget (1932) has suggested that there are three quite distinct stages of children's development in terms of justice-evaluations. During the first of these (5-6 years) moral correctness is judged by children as directly correlated with adult decisions. The second stage (7-8 years) is noted by a strong tendency towards equality, where adult statements are less authoritative than perceived "fairness" between peers. Finally, from 9 years onwards, the value of egalitarianism takes precedence and equality is balanced with personal gain. It may be expected that children's reactions to inequitous reward conditions as present under the implicit reward paradigm will vary according to these three age groups. Thirdly, there is evidence from equity theory (Adams, 1965; Adams & Freedman, 1976; Homans, 1953) that the size of a group will affect subjects' reactions to inequitous reward situations, in that the more peers present, the higher the effect. These three considerations were incorporated into the present study by (i) setting the experiment in a separate room within a school and using strangers (to the children) as the experimenters; (ii) including children from Piaget's three stages of justice-development; and (iii) dividing subjects into groups of eight and pairs.

Method

Subjects and Setting

The subjects were 48 children (31 boys, 17 girls) from a typical school in a large country town. There were 16 children from each of grades one, three, and six, the grade one children being 15 boys and one girl, all of ages five or six; the grade three children being equally divided as to boys and girls (C.A. 8 or 9); and the grade six children being seven boys and nine girls (C.A. 11 or 12). The disproportionate number of boys in grade one was a result of the nature of the school population. There were no outstanding academic or behavioral problems in any of the children and all subjects were volunteers. The study was carried out during free time before school (9-9:30 a.m.) and during the lunch hour (1-1:30 p.m.). All teachers were unaware of the actual nature of the study but were told that the children would be practising their handwriting. Every teacher expressed approval of this exercise. The subjects were randomly divided into groups or pairs and into targets or peers.

Data-collection Procedures

As in the previous study (Sharpley et al., 1980) handwriting was the task chosen as the main dependent variable. This was to be performed upon prepared slips of paper appropriate to each grade. All subjects were required to write their names and the session number upon their sheet of paper prior to beginning the task. Depending upon the particular intervention strategy, all children received their papers from the previous session and the appropriate intervention response before completing the task for that session. In order to keep the present study as close a replication as possible of the previous study, a similar handwriting task was used. The letters of the alphabet were arranged in random order on a separate stimulus sheet for each trial of each particular intervention (two per day for four days of the week), thus eight different stimulus sheets were prepared. The letters were initially printed by an experienced primary teacher who copied them from the official Course of Study as used in the school. The stimulus was presented on an overhead projection screen 2.5 m from the children.

Dependent Variable Measures

(a) *Handwriting*

The scoring of handwriting is often associated with subjective responses on the part of the scorer (Anderson, 1965; Feldt, 1962), but recent methods have produced high levels of reliability (Helwig, Johns, Norman & Cooper, 1976). Using one of these methods, transparent overlays were constructed to measure three ranges of deviations in children's responses to the model letter: from 0-1 mm, 0-2 mm, and the 0-3 mm. The following criteria were used to define correct manuscript letter strokes.

1. The total stroke must be within the confines of the line of the overlay.
2. Each stroke that is not a complete circle must begin and end between the small slash mark and in the line forming the confines of the letter.
3. All circles in the letters a, b, d, g, o, p, q, and the top of the letter e must be closed curves.
4. All strokes must intersect each successive stroke at one point except for the dot above the i and j.

5. The letter must be complete with all strokes present.
6. The horizontal stroke in the t and f must intersect the other stroke within the confines of the ellipse near the centre of the vertical stroke. (Helwig et al., 1976, p. 232)

The 0-1 mm overlays were used to score the grade six writing; the 0-2 mm overlays for the grade three, and the 0-3 mm overlays for the grade one writing. This procedure allows for variations according to expected proficiency level over age while using a standard task for all subjects.

(b) *Attitudinal responses*

Two measures of changes in subjects' attitudes towards the task and the experimental conditions were taken. Firstly, a questionnaire which asked subjects to respond to the following questions was administered at selected points during the study.

Q1. Did you like doing this?
Q2. Would you like to do it again?
Q3. Do you think it was fair?

Subjects' responses to these questions were confined to "a lot," "a bit," "not much." Questions 4, 5 and 6 were asked only if Q3. had a response indicating awareness of unfairness (i.e., "a bit" or "not much").

Q4. In what way is it unfair?
Q5. Would you like to change it so it would be fair?
Yes/No—How?
Q6. Who do you think made it unfair?

The second measure of attitudinal change taken was in the form of an anecdotal record of subjects' comments and complaints. Where possible, note was made of the actual wording of the comments and/or complaints. Totals were calculated across groups. A complaint was defined as any verbalization which was of a derogatory nature concerning the task, the experimenter, the scores, or the reward structure. Verbalization of a nonderogatory nature was recorded as a comment. These records were kept only during the actual time of intervention.

Reliability

The correction of each session's responses was carried out immediately after the session by an independent evaluator. This person was an experienced teacher who had been taught the scoring method until a criterion of 100 per cent agreement was reached between her responses and those of the experimenters. This evaluator was naive as to the actual nature of the study and unaware of the different intervention-phases.

An additional cross-check was made using another similarly experienced and trained evaluator to re-score one session per intervention-phase. The session chosen was done on a random-choice basis and there was no feedback to the first evaluator as to the correlation between scores. A post-study check was carried out at the end of the study when the first evaluator re-scored one session per intervention-phase. Inter-rater and post-check reliability data were calculated and appear below.

Procedure

Rewards

The rewards chosen were

1) Feedback of results in the form of a tick above each letter correct, plus a total of the number of letters correct/26;

2) An indication of improvement over the previous session's performance. This took the form of a plus, minus or equals sign together with a "Smiley" face for improvement or a "Grumpy" face for equal or decreasing performance;

3) Verbal praise from the experimenters in the form "That's an improvement. Very good work";

4) A Smartie for improvement (Smarties are small chocolate sweets, similar to M and Ms).

Design

Problems such as the spuriously high levels of variability encountered in experimental work in the behavioral sciences may be overcome by separating the effects of differences between subjects, which exist prior to the experiment, by use of repeated-measurement procedures (Winer, 1971; Keppel, 1973). With repeated measurements of each subject's responses over multiple interventions, all subjects serve as their own controls because measurements are based upon the deviations from the mean of each subject's responses. Thus the performance of each subject is measured in such a way that "variability due to differences in the average responsiveness of the subjects is eliminated from the experimental error" (Winer, 1971, p. 261). The results obtained from such designs are therefore more reliable than those obtained from single-intervention procedures. Further opinion (Baer, Wolf & Risley, 1968; Hanley, 1970; Namboodiri, 1972; Kazdin, 1975; Kazdin & Kopel, 1975) points to the use of multiple-measurement or repeated-measures designs in applied operant research as the most comprehensive method of avoiding sources of variability in subjects' performance which are extraneous to the experimental variables.

Following Cook and Campbell (1979) a multiple time-series design was formulated and is presented in Table 1.

TABLE 1

DESIGN OF THE STUDY

	Weeks			
	1	2	3	4
Condition	A	B	B_1	B
Target subjects	A	B	B	B
Peer subjects	A	B	A	B

Key: A = Baseline
B = Direct contingent rewards
B_1 = Implicit contingent rewards

Experimental Conditions

All children were exposed to the same conditions unless specified because of the nature of the reward-phase.

A – *Baseline.* Handwriting was recorded for each subject over the eight sessions of this intervention, with the experimenters' only comment being "Thank you" as the individual pieces of writing paper were collected. Any questions were politely answered in a noncommital fashion by the experimenter.

B – *Intervention 1* (Direct rewards to all subjects). During this phase each child received his/her previous session's writing sheet back with the appropriate experimenter response as detailed above. After perusal of these sheets for about 30 seconds, children were given a blank sheet and asked to copy the day's exercise onto it. Both sheets were collected at the end of the session.

B_1 – *Intervention 2* (Implicit rewards). During this phase, only half of each group or pair received their previous session's sheet back. When questioned as to this, the experimenter replied that "The person who corrects them only gave me these ones back." That is, half of the group or pair were experiencing the same reward conditions as during the previous week, and the other half of the group or pair were experiencing a return to Baseline conditions.

B – *Intervention 3* (Direct rewards to all subjects). This was a return to Intervention 1 conditions.

Statistics

Statistical analysis of the data obtained from this study was performed by two methods: the TMS time-series package written by Bower, Padia and Glass (1974), and Finn's Multivariance (Series VI) programme (Finn, 1977). The use of time-series analysis with data obtained over repeated observations has been suggested by various authors as a method of overcoming any spurious effects due to serial dependency in such data (e. g., Glass, Willson & Gottman, 1976; Jones, Vaught & Weinrott, 1977) and because the evaluation of changes in response-levels by visual (i.e., graphed, mean scores) representation can often be grossly misleading (Jones, Weinrott & Vaught, 1978; De Prospero & Cohen, 1979). Such effects are taken into consideration by the calculation of correlation coefficients between data points so that an appropriate model of the data can be determined prior to testing for intervention effects. Without such prior evaluation of the autocorrelation effects of either previous data points or prevalent random shocks in the data, testing for intervention effects assumes independent data—an assumption which may be unjustified. The package TMS contains a subprogram CORREL which processes data and determines the level of autocorrelation present. Data may then be analysed by a further subprogram TSX, to test for treatment effects.

In order to test for differences between factors (i. e., groups vs. pairs, the age-level comparisons), the Multivariance package was used with these variables as factors in a repeated measures analysis of variance. Intervention phases B and B_1 were contrasted, with data from B being covaried out of the analysis of the data. Thus the effects of group-size and age-level as factors within any change in response levels during the Implicit reward phase were examined.

Reinforcer Effectiveness

In order to validate the use of the reward as a reinforcer, a single-intervention time-series analysis was carried out upon each subject-group's data at the end of the first week of use of the reward. Comparison was made between Baseline and Intervention (i. e., use of the reward) and results are presented in Table 2. These

data support the use of the chosen reward as a reinforcer by demonstrating the power-as-a-reinforcer which this reward had upon the task performed ($p<.05$).

TABLE 2

TIME-SERIES ANALYSIS OF CHANGES IN RESPONSE-LEVELS FROM BASELINE TO DIRECT CONTINGENT REWARD CONDITIONS

Class[a]	t (level)	t (slope)
18 t	4.74	5.16
18 p	3.69	5.37
12 t	7.26	4.51
12 p	3.68	9.03
38 t	5.39	10.85
38 p	7.77	13.66
32 t	3.56	6.74
32 p	3.79	5.60
68 t	8.85	14.62
68 p	4.41	5.37
62 t	4.16	5.50
62 p	4.88	14.18

Note. All obtained t-values for level were significant at the $p<.05$ level (df=12).

a Designates class: e.g., 18 t = class one, groups of eight, t = target, or p = peer subjects.

Results

Reliability

Interscorer checks were conducted on sessions 1/7, 2/5, 3/3 and 4/4 (week/session) and results showed a high level of reliability between scores ($r=.908$ to .997). Post-checks were conducted on sessions 1/6, 2/4, 3/2 and 4/2, with results ranging from $r=.945$ to .981. Reliability was thus higher than the various standards suggested: .80 Hartmann (1977); .90 Kelly (1977) and the scoring procedure is generalizable across conditions and consistently dependable over the total span of the study.

Data from the Study

As presented above, there were significant changes in response levels from Baseline (A) to Direct reward conditions (B).

Year One

(a) *Groups*

Both target and peer subject responses were low during Baseline sessions, with little movement above zero letters correct. During phase B there was a significant increase in both the level and slope for target and peer subjects ($p<.05$). The reward acted as a reinforcer for correct handwriting responses during this phase. When the data from phase B_1 were examined, it appeared that there were decreases in responses for both targets and peers. Statistical analyses verify this for targets (t level=-5.85, df=12, $p<.05$; t slope=-10.55, df=12, $p<.05$) and for peers (t level=-5.50, df=12, $p<.05$; t slope=-5.60, df=12, $p<.05$). These

decreases in correct responses were significant for those subjects who were still receiving direct contingent rewards (i. e., targets) as well as for those who were on an extinction phase (peers). During the final phase, both targets and peers increased the level of correct responses (targets: $t=2.79$, df=12, $p<.05$; peers: $t=2.13$, df=12, $p<.05$), targets increased the slope of their ongoing responses ($t=2.75$, df=12, $p<.05$), but peers showed a nonsignificant downward trend ($t=-1.07$, df=12, n. s.). The relative homogenity of these two groups reflects a factor present which apparently has overridden the purely operant application of a reinforcer.

(b) *Pairs*

Once again there was little movement above zero during Baseline phase for either targets or peers. During Direct reward conditions (B) significant rises were noted by both targets and peers: targets (t level=7.26, df=12, $p<.05$; t slope=4.51, df=12, $p<.05$), peers (t level=3.68, df=12, $p<.05$; t slope=9.03, df=12, $p<.05$). Unlike the previous year-one subjects in groups, these subjects in pairs did not reach significant level decreases in responses during phase B_1. A clear trend is evident, however, for level which is verified by the accompanying significant decrease in slope for both groups: targets (t level=-0.64, df=12 n. s.; t slope=-5.93, df=12, $p<.05$) and peers (t level=-2.01, df=12, $p<.05$; t slope=-7.96, df=12, $p<.05$). These results indicate that the level of correct responses was falling for both groups during this phase, although the decrease had not yet reached significance.

The final phase (B) showed contradictory results for the two groups. While targets showed a slight nonsignificant decrease in level ($t=-0.09$, df=12, n. s.) plus a similar increase in slope ($t=1.26$, df=12, n. s.), peers showed the opposite trends (t level=1.22, df=12, n. s.; t slope=-0.33, df=12, n. s.). These data indicate no clear-cut change upwards or downwards for either group during this final return to Direct reward conditions.

Year Three:

(a) *Groups*

Similar significant increases from Baseline to Direct reward phases were noted in this age-group: targets (t level=5.36, df=12, $p<.05$; t slope=10.85, df=12, $p<.05$), peers (t level=7.77, df=12, $p<.05$; t slope=13.66, df=12, $p<.05$). The reward chosen was demonstrably reinforcing correct handwriting responses for those subjects during this phase, but not during the next (Implicit) phase—B_1. Targets showed a significant decrease in level ($t=-3.87$, df=12, $p<.05$) and a nonsignificant trend in the same downward direction for slope ($t=-1.11$, df=12, n. s.), while peers showed a similar downward trend in level ($t=-1.77$, df=12, $p<.20$) and a significant decrease in slope ($t=-11.22$, df=12, $p<.05$). Upon the reintroduction of Direct rewards for both groups, there were mixed reactions from subjects. Targets continued to decrease in level ($t=-0.07$, df=12, n. s.) and slope ($t=-9.06$, df=12, $p<.05$). Peers, however, increased their level of correct responses ($t=2.64$, df=12, $p<.05$) but showed a downward trend in slope ($t=-1.08$, df=12, n. s.). The peers' results may be biased by data collected during session one of this phase. If these data were ignored, the level is only slightly increased.

(b) *Pairs*

Once again significant increases in level of correct responses are noted from Baseline to Direct reward conditions for these subjects: targets (t level=3.65, df=12, $p<.05$; t slope=6.74, df=12, $p<.05$), peers (t level=3.79, df=12, $p<.05$; t slope=5.60, df=12, $p<.05$). While there were only downward trends for level for both groups of subjects during phase B_1, (targets: t=-0.51, df=12, n. s.; peers t=-0.05, df=12, n. s.), there were significant decreases in slope for both groups (targets: t=-2.72, df=12, $p<.05$; peers: t=-6.32, df=12, $p<.05$) indicative of a change in response levels and direction for both groups during this phase. The implementation of the final Direct reward phase showed significant increases in level for both targets (t=2.29, df=12, $p<.05$) and peers (t=2.39, df=12, $p<.05$). The upward movement was reflected in the slope trend for targets (t=0.28, df=12, n. s.) but not for peers (t=-2.68, df=12, $p<.05$).

Year Six

(a) *Groups*

Increases from Baseline to Direct reward phases were significant: targets (t level=8.85, df=12, $p<.05$; t slope=14.62, df=12, $p<.05$), peers (t level=4.41, df=12, $p<.05$; t slope=5.37, df=12, $p<.05$). Uniform decreases during B_1 were also noted for both targets (t level=-3.73, df=12, $p<.05$; t slope=-10.41, df=12, $p<.05$) and peer subjects (t level=-2.78, df=12, $p<.05$; t slope=-9.72, df=12, $p<.05$). The data from the final Direct reward phase were also similar between targets and peers: targets (t level=1.38, df=12, $p<.20$; t slope=-0.44, df=12, n. s.), peers (t level=3.65, df=12, $p<.05$; t slope=-1.71, df=12, $p<.20$), indicating increases in level but downward trends in slope.

(b) Pairs

The significant increases in level and slope for both targets (t level=4.16, df=12, $p<.05$; t slope=5.09, df=12, $p<.05$) and peers (t level=4.88, df=12, $p<.05$; t slope=14.18, df=12, $p<.05$) were followed by a nonsignificant downward trend for targets and a significant decrease for peers during B_1. Targets showed a decrease in both level (t=-1.12, df=12, n. s.) and slope (t=-2.10, df=12, $p<.10$) which was not significant, but which was marked in both t-statistic measures. Peers decreased significantly in both level (t=-23.08, df=12, $p<.05$) and slope (t=-11.56, df=12, $p<.05$). Both groups showed a significant increase in level under the final application of Direct reward conditions: targets (t=5.62, df=12, $p<.05$) peers (t=2.52, df=12, $p<.05$). These results were accompanied by a downward slope change which was significant for targets (t=-10.89, df=12, $p<.05$), but only a trend for peers (t=-0.33, df=12, n. s.).

Summary

1. The application of the chosen reward significantly reinforced the correct letter writing responses of all subject groups during phase B (week 2).

2. There were significant decreases in level or slope, or both, of the correct letter writing response for all subject groups during the Implicit reward phase (B_1) in spite of the continued application of the hitherto reinforcing reward to target subjects.

3. Although there were two exceptions (12t and 34t) all subject groups increased their levels of correct responses when Direct rewards to all groups were

reinstituted during the final week (B). The two exceptions were nonsignificant trends only (12t: t=-0.09, df=12, n. s.; 34t: t=-0.07, df=12, n. s.).

Comparisons between those subjects in Direct reward groups (i. e., targets) in groups of eight vs. pairs were made and appear in Table 3. The analysis of variance with repeated measures over phase B_1 with data from phase B covaried out revealed an overall significant effect due to size of group (F=11.55, df=8,3, p<.05). Step down F values presented in Table 3 show that significant effects were noted between sessions at two points: when sessions one and two had been covaried out of the analysis and when sessions one to five had been covaried out ($F_{(2\text{-}3)}$=10.60, p=.0116; $F_{(5\text{-}6)}$=10.04, p=.0249). These results indicate that changes occurred in these data between sessions two and three and sessions five and six which were not accounted for by the variance in previous sessions. By reference to the covariate adjusted treatment means (presented graphically in Figure 1) it may be seen that there was a divergence of mean scores from session two to three, and a convergence from session five to six. After session two, those subjects receiving Direct rewards in pairs increased their level of correct responses while those subjects receiving Direct rewards in groups of eight decreased their level of correct responses. A similar movement may be noted from session four to five, although this was predicted from previous scores and therefore the F value here did not reach significance. A reversal of this trend occurred following session five and was noted as a significant change in data not accounted for by previous scores. After session five, both sets of data follow a more similar trend than in the previous three sessions.

TABLE 3

ANALYSIS OF VARIANCE WITH REPEATED MEASURES (SESSIONS 1-8 DURING B COVARIED OUT) FOR LEVEL OF CORRECT RESPONSES, SUBJECTS IN GROUPS OF EIGHT VS. SUBJECTS IN PAIRS, B-B_1

Variable (=Session=B_1)	Step down F	p less than
1	3.459	.092
2	0.540	.481
3	10.602	.012
4	2.657	.147
5	2.342	.177
6	10.041	.025
7	2.588	.183
8	0.027	.879

It appears from these data that differences did occur in response levels as a result of group size, with groups-of-eight subjects showing more powerful extinctive reactions from session two to session five. Paired subjects also showed similar extinctive reactions, but significantly less powerful than subjects in eights.

The analysis of data regarding differences in correct responses as a result of age level revealed a nonsignificant outcome (F=1.425, df=8,3 n. s.). There was no

significant interaction with this factor of age-level and the previously investigated group-size factor ($F=1.746$, df=8,3, n. s.). The difference in reaction on the main dependent variable of handwriting suggested by Piagetian theory was not found. Age level did not significantly effect reactions to Implicit reward conditions by target subjects in this study.

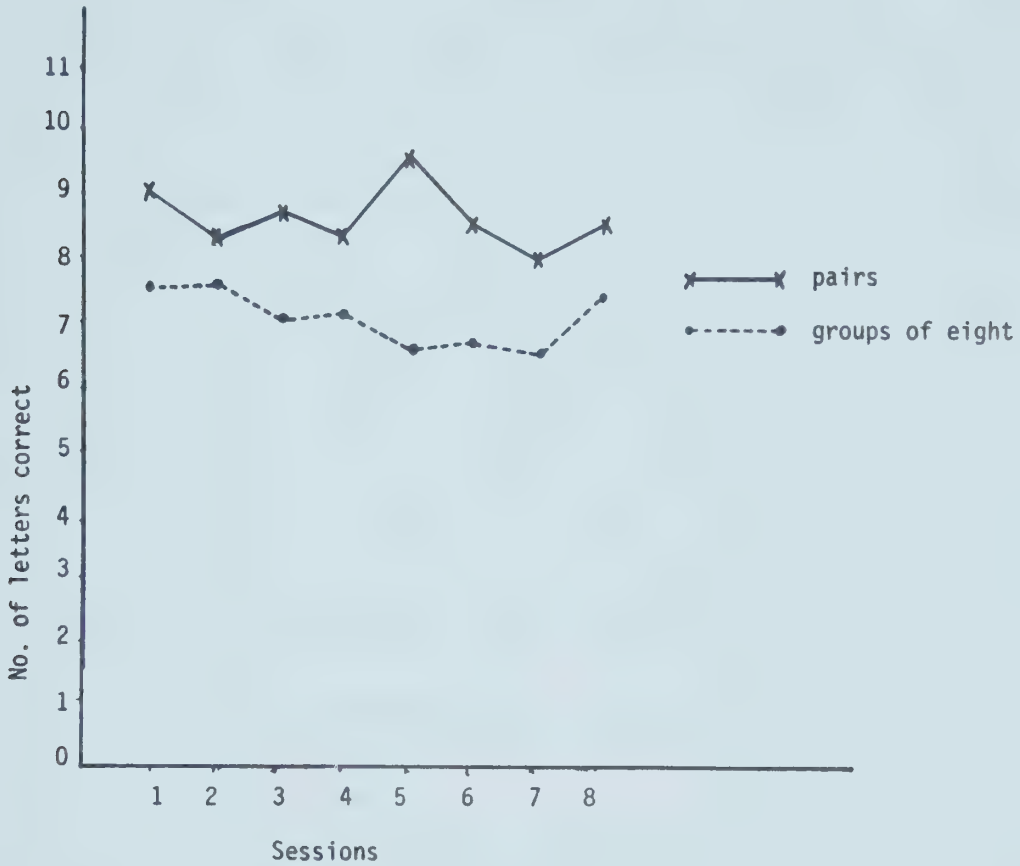

Figure 1. Covaried estimated means for pairs vs. groups of eight, phase B_1, Direct reward subjects only.

As well as the formal testing of principal dependent variable data (handwriting), attitudinal responses were also examined.

Questionnaire data revealed that there was a marked increase in the number of negative responses during the Implicit reward conditions (B_1) compared to the previous Direct reward conditions (B). While rewards were distributed to all children (i. e., during B, week 2), only four subjects registered discontent with the fairness of the condition. However, 29 subjects complained that the Implicit conditions were unfair because of the lack of rewards for some children. A greater proportion of older children saw the reward conditions as unfair (year $1=3/16$; year $3=6/16$ year $6=11/16$) with the older children being far more definite regarding reasons why this was so (e. g., "because we don't get our writing sheets back."). Suggestions as to changing the reward conditions to make them fairer (e. g., "give us all our sheets back.") and who was responsible for the perceived unfairness ("the lady who marks the writing") were also more definite amongst the older subjects.

The number of comments and complaints increased sharply from the first Direct reward condition to the Implicit reward condition ($B=7$; $B_1=235$). The final Direct reward condition registered few comments and complaints (6) except

the year six groups (i. e., 64t, 64p) who, although they had not verbalized their negative reactions to the experimenter, refused to attend the final session, preferring to play with other children.

Discussion

The present study has replicated a previous classroom study in a non-classroom setting. The presence of extinctive effects under Implicit reward conditions was significantly associated with group size for those subjects who were receiving Direct contingent rewards. This section of the sample used is that which is of most interest from a theoretical viewpoint. While it may be expected that those subjects who were denied rewards would show a performance decrement, the presence of a similar performance decrement in the data obtained from those subjects who were receiving Direct contingent rewards in groups is not easily accounted for. As suggested previously (Sharpley et al., 1980), it may be that cognitive evaluations of the reward conditions by those subjects who are receiving rewards while their deserving peers are not have resulted in a compensatory withdrawal from the task-activity and hence a lowering of correct response levels (Adams, 1965; Walster, Berscheid & Walster, 1976). Alternatively, the presence of Implicit reward conditions may signify an aversive stimulus *per se*. Further investigation of the components of these conditions is necessary.

The absence of any significant effects due to age differences suggests that the theoretical formulation by Piaget regarding interpretations of "justice" was not relevant to the present experimental conditions. While children's conception of justice may be differentiated on an age basis, it appears from the present study that these conceptions of justice have little effect upon reactions to inequity in reward conditions.

The significant effects due to group size suggest a verification of Equity theory in this instance. If, as is suggested by Equity theorists, the presence of peers in some numbers effects personal decisions to accept or to reject the unfair outcomes of certain actions, then the present data may be accounted for. Paired subjects are not being observed by a group of peers and may reason that there will be less (if any) social sanction against accepting rewards whilst peers are denied such rewards.

The implications for applications of operant principles to subgroups in school classes are powerful, and may explain the occasional reluctance of teachers to apply such treatments (Irvine & Sharpley, 1980). That the observed extinguishing effects associated with Implicit rewards are not a classroom phenomena in isolation has been demonstrated. The presence of such extinguishing effects in wider situations can only be conjectured upon and calls for further research. Of direct relevance to practitioners (e. g., teachers, therapists) who use behavior modification procedures, is the result that there is an extra factor between the response and the reward within the operant paradigm—that of the (moral?) evaluation of the human receiving the consequence. As such, these data constitute a vindication of the cognitive-operant viewpoint mentioned at the commencement of this paper.

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The Private School Movement in Alberta

Private schools have had their place in Alberta throughout the history of the province. A major impetus to the private school movement followed the influx of immigrants from the Netherlands who brought with them a strong private school orientation. Additional denominational groups have sought to provide a particular kind of education for their children which cannot characterize the program of a public school serving a pluralistic society. Specific nondenominational needs have been met by nonsectarian or secular private schools. The flexibility of school legislation governing the establishment of private schools and the increasing government grants to such schools have raised concerns among the supporters of the public school system.

The Alberta School Trustees' Association Task Force on Private Schools was established on December 1, 1979. In January 1980 the Task Force engaged the writer to prepare a report on private schools in Alberta. The research reported here includes that which was completed during the preparation of that report (Bergen, 1980).

The object of this paper is to examine the trends in private school growth and enrollments, and the concerns of private school supporters as well as those of public school boards. In order to provide a comprehensive setting for these developments, a review of selected literature is given and the legal status and the financing of private schools are briefly described.

For the purpose of this paper a *private school* is a school other than one under the governance of a public or a separate school board or of a provincial or federal government department. Schools offering postsecondary education are not included.

In Alberta, separate schools, most of which are Catholic, are an integral part of the provincial school system. Unless specifically stated otherwise, the term *public*

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school includes *public* and *separate* schools. Similarly, *public school board* (or *district board*) refers to both *public* and *separate* boards.

Private schools may be secular or nonsectarian. In this paper the term *secular* will be used. Private schools may also be religious (denominational or nondenominational). The term *nonsecular* will be used in general reference to such schools. At this time all nonsecular private schools in Alberta espouse Christianity. This, however, does not imply that any of the secular private schools are necessarily non-Christian. Quite to the contrary, several of them are characterized by a Christian ethos but are not affiliated with any denominational or other religious association or organization.

Review of Literature

The question as to whether schooling ought to be private or public was not of interest to parents during colonial times (Kraushaar, 1976, p. 7). Substantial public financing of private schools is found to be generally acceptable in European countries such as Germany, France and Holland (Goldschmidt & Roeder, 1979) and in Australia *(Australian Students and Their Schools, 1979)*. Although private schools do not receive government grants in the United States, an increase in the private school sector has roused the concern of public school supporters (Butts, 1979; Park, 1980) while the freedom of parents to choose alternatives also has found articulated support (Coons, 1979; Morris, 1980).

Podmore (1977) pointed out that, except for Sweden and Norway, Canada had the smallest private secondary sector in the modern industrial nations of the West. A brief survey regarding the regulations governing private schools in the provinces was made by Phillipson (1979). Some of the early private schools which have survived tend to be elitist, or at least costly for those who attend them (Gossage, 1977). In a study of six private schools in Winnipeg, VanderStoel (1979) refuted the commonly held misconceptions that private schools are attended by the rich exclusively or for religious reasons only. With respect to private schools in Quebec, Bezeau (1979) stated that they "have recruited students from all levels of society, but the upper social and economic levels are more heavily represented" (p. 39). His study also showed that for 1973-74, 4% of the private school enrollment was induced to leave, 46% of these for academic reasons, and that 71% of those who left returned to the public schools.

In a nation-wide American study, Coleman (1981, p. 159) has claimed to have evidence that higher achievement and aspirations are found for students in Catholic independent (private) schools than for students in public schools from comparable family backgrounds. However, the reported findings have been disputed by Page and Keith (1981). Countering the argument that private schools produce intolerant attitudes, Landyski (1972) claimed that there was no evidence that those who came through private schools were any less tolerant than those who came through public schools.

A British Columbia study has been launched in order to ascertain the consequence of funding independent schools. The first phase of the study indicated that greater commitment on the part of the teachers, parents, and students was found in private schools than in public schools (Erickson, MacDonald & Manley-Casimir, 1979). Bullen, who recently became inspector of Independent Schools for the British Columbia Ministry of Education, believed that if independent schools live up to the trust placed in them, "in time a level of

political and social maturity may be reached where the freedom to choose schools will be as valued in B.C. as the other freedoms which set aside the free democracies from totalitarian states" (Bullen, 1978, p. 30). In a similar vein, Edmonds, writing in defence of the private school, referred to the Universal Declaration of Human Rights in which "it is categorically stated that parents have the right to decide the kind of education their children should have" (1981, p. 21).

Some of the advantages of private schools — such as a greater measure of institutional self-determination, academic discipline, and greater instructor-student interaction — have been pointed out also by Ditchburn (1975) and Wilkinson (1976). However, the advantageous settings these writers describe are generally not accessible to students whose parents cannot afford the tuition rates. The Canadian Association of Independent Schools, formed in October 1979, encompasses about sixty such prestigious schools (The Canadian Headmasters' Association, 1980). Membership is restricted to nonprofit institutions "graduating students into university" (Troubetzkoy, 1982).

The Parent Commission (Quebec, 1966) and the McFarlane Commission (Manitoba, 1959) appear to have been the only royal commissions on education to have favored a measure of public support for private schools. Substantial support became an immediate reality in Quebec; however, minimal support in Manitoba was not introduced until 1978.

The Cameron Commission held that private schools were to exist without cost to the taxpayer (Alberta, 1959, p. 257). A warning note was contained in the Worth Report that the growth in private schools might also lead to a degree of "educational and social fragmentation" (Alberta, 1972, p. 61).

Mazurek discussed trends towards "regionalism" in education — "formal regionalism," such as is exemplified by Quebec school legislation designed to perpetuate the French language and culture, and "informal regionalism" as illustrated by the decisions of Alberta Holdeman Mennonites to gain more control over the education of their children by establishing their own private schools (1980, p. 10). Friesen proposed a case for an "education mosaic" in which public education would accommodate cultural differences for Canada's minority groups "offering a full range of choices in philosophical outlook, school content, and teaching approach" (1981, p. 21). Bergen suggested that the challenge for public school authorities "may not be one of opposing or actively retarding private school developments, but rather one of working out appropriate controls and even symbiotic arrangements" (1981, p. 8).

In contrast to the foregoing positions, Chalmers in a "post-mortem on public schools" (fictitiously dated December 1989) outlined the darkest of possible futures in which public education in Alberta is abolished and the concerns of the Department are limited to the supervision of private schools "and other such establishments" (1980, p. 24).

Earlier Alberta studies on private education included that of Ronning (1942) who suggested that district boards might pay the tuition fees of students attending private schools. Smith (1949) surmised that protestant private schools were making a positive contribution but that their programs did not contain elements which could readily be adopted by public schools. Miller (1957) held that public schools did not meet the educational needs of Seventh Day Adventists. Cook (1958) explained that the Mormons preferred to leave the expensive enterprise of secondary and junior college education to the public sector.

Surveys of the attitudes of publics regarding the financing of private schools were made by Konrad (1961) for Alberta and British Columbia and by Ludwig (1970) following the introduction of government grants for private schools in Alberta. A comparison of the Konrad and Ludwig findings indicated that Departmental superintendents in 1969 were more favorable than they were in 1961 to the degree of financial support for private schools and also to the access of private schools to provincial educational resources such as film and audiovisual services. Konrad indicated that the provincial grant regulations for 1959 provided for some financial support to private schools offering schooling to children resident in unorganized territory. An example of such a service was that provided by the Holdeman Mennonites to the Sunchild Cree Indian Reserve at Rocky Mountain House for about twenty years until a modern school was erected by the government (Hiebert, 1971, p. 362).

Digout (1969) documented the political process whereby government grants for private schools in Alberta were initiated in 1967. One of the major actors was the Association of Private Schools and Colleges in Alberta (APSCA) which was formed in 1958 and in the same year submitted a brief to the Royal Commission on Education in Alberta. By 1964 its membership of 27 schools included most private schools other than the Jewish and the Seventh Day Adventist. That year the APSCA (1964) submitted a brief to the Cabinet in which a case was made for public funding of private schools and for providing for private school teachers to come under a pension plan similar to the Teachers' Retirement Fund. The latter was achieved in 1965, the former in 1967.

The APSCA was represented in the Advisory Committee on Private Schools and Colleges which was appointed by Cabinet order on December 30, 1958, and thus was able to exert its influence through direct channels. Two additional organizations, the Societies for Christian Education of the Dutch Reformed Church and the Christian Action Foundation were involved largely in informal activities (Digout, 1969).

A few days prior to the passing of Bill 29 on March 10, 1967, which provided for financial assistance to private schools, the Alberta Teachers' Association circulated a letter to Members of the Legislature registering its opposition to public funds for private schools. During its November 1967 meeting the Alberta School Trustees' Association indicated that it did "not support the principle of financial grants . . . to private schools" and included the resolution in its brief to the Cabinet on January 5, 1968 (Digout, p. 96). By contrast, preceding the passing of the Bill, the Alberta Catholic School Trustees' Association in its July 15, 1966, brief to the Committee on School Centralization of the Legislature stated that "private schools with goals similar to ours are to be given state aid . . . we congratulate you as legislators upon your willingness to provide it" (Digout, p. 98).

Sloan (1980) has recorded the continuing political process whereby government grants for private schools have been increased substantially, but also whereby the School Act was amended in 1975 in order to allow for agreements to be established between public or separate school boards and private schools. An Ad Hoc Committee to Examine the Status of Private Schools in Alberta seems to have had a short life due to the inability of group representatives to agree on how to advise the Minister. The standing Advisory Committee on Private Schools and Colleges also was disbanded (p. 70).

Sloan (1980) showed that annual reports of the Department of Education made references to the contributions of private schools, such as to adult students, in isolated areas, for retarded children, and in the teaching of second languages. "Over the years," said Sloan, "the Department of Education has repeatedly expressed the view that these schools performed a very important function for the province and for the students involved" (p. 58).

Assheton-Smith and Toohey (1979) examined school-centered community conflict in two rural jurisdictions in which Holdeman Mennonites had withdrawn children from the public schools. Stronger acceptance of the Holdeman decision was found in the community in which Holdemans had settled as "pioneers" at the same time as other residents, than in a community to which they had moved more recently, bought farms, and subsequently affected the local public school by setting up their own private school. Also, the researchers found "a general feeling of discontent with the public schools as they are" among interviewed board members, almost all of whom indicated "agreement in some sense with the Mennonites' analysis and subsequent decision to withdraw their children" (p. 85).

If a review of the literature suggests anything at all, it may be that issues regarding private schools will at all times be in the public consciousness. They are the concern not only of private school clientele, but also that of teachers' and trustees' associations, district school boards and local communities. Except for Quebec and Manitoba, they have received minimal attention by royal commissions on education. However, they are repeatedly on the agenda of ministers of education and have become significant items in the platforms of political parties in some provinces. Finally, they intrigue academics and researchers.

Legal Setting for Private Schools

Section 93 of *The British North America Act* (1867) gave to the provinces the exclusive right to make laws in relation to education "in and for each province," subject to certain conditions. These conditions guaranteed Roman Catholics and Protestant rights to denominational schools in Quebec and Ontario and in other provinces where such schools existed "at the union" or were subsequently established "by law." Section 17 of *The Alberta Act* (1905) specifies that the expression "by law" shall be held to mean "the law as set out in the said chapters 29 and 30," that is, the Ordinances of the Northwest Territories passed in the year 1901. These Ordinances placed public and separate schools on an equal status. This provision for separate schools apparently has obviated the need for Catholic private schools in Alberta, whereas such are found in all provinces where the provision for separate schools did not exist or where such provision was recognized for elementary schools only.

The first mention of "private school" in Alberta legislation is found in a statute of 1910 (SA 1910 (2), c. 16, s.2). Reference to private schools in an annual report of the Department of Education was first made in 1919 (Sloan, 1980, p. 47). The first specific definition of a private school appeared in the legislation of 1955 (RSA 1955, c. 95, s. 8), which also gave to the Lieutenant Governor in Council the authority to "make regulations governing the establishment, operation and supervision of private schools" (s. 8).

Essentially, for a "private school" to be regarded as a "school," it must be approved by the Minister, it must be providing instruction for pupils who otherwise would be in attendance at a school operated by a local board or a

government agency, and it must be providing an instructional program approved by the Minister (SA 1979, c. 37, s. 4).

The Minister had been loathe to approve any private school which did not employ certificated teachers. The amended regulations of 1978 (A.R. 140/78) made allowance for such schools following the Oliver judgement (Bergen, 1978); however schools which do not employ certificated teachers do not receive a government grant. The new regulations provided for four classifications of private schools: category 1 schools, employing certificated teachers and providing instruction for pupils who would otherwise be attending schools operated by local school boards; category 2 schools, providing instruction for mentally, emotionally, or socially handicapped children; category 3 schools, providing instruction in a language other than English at times other than the normal operating hours of schools under school boards; and, category 4 schools, with the same purpose as category 1 schools, but not having certificated teachers.

The regulations require four conditions of persons or organizations desiring to operate a private school:

1) The reason for the establishment of a private school must be provided.

2) The buildings or premises must meet the requirements of the Minister.

3) The courses of study to be offered must be prescribed or approved by the Minister.

4) The maintenance of pupil enrollment and attendance records must be acceptable to the Minister.

Furthermore, *The School Act* was amended in 1975 to permit tuition agreements between school boards and private schools: "A board with the prior approval of the Minister may (a) enter into an agreement with . . . the operator of a private school for the provision of educational services" (s. 160). That is, the school board may provide educational services for the benefit of students enrolled in a private school, or it may accept educational services from a private school for students enrolled in schools under its control, or, indeed, a board may make arrangements to have children resident within its district enroll in a private school for instruction.

The foregoing examination indicates a gradual development in legislation concerning private schools from mere recognition — that is, providing for their operation under law — to an acceptance of private schools as equal in status to public schools in many respects.

Financial Provisions for Category One Private Schools

Quebec and Saskatchewan preceded Alberta in the introduction of provincial grants to private schools; to date such grants are available only to private high schools in Saskatchewan. Subsequently grants to private schools were introduced also in British Columbia and Manitoba. For the 1967-68 term a grant of $100 per pupil was introduced in Alberta, increased to $150 in 1970, to $160 in 1972 and $172 in 1973. In 1974 the formula was changed to allow for differential grants for elementary, junior high and senior high pupils, so that in each case the grant per private school pupil would be 33 1/3% of the per public school pupil grant. This proportion has been increased from year to year, standing at 75% for 1982.

The per pupil government grants to schools as of January 1, 1982, were as follows:

Grades	*Public*	*Private*
1 - 6	$1596	$1197
7 - 9	$1673	$1255
10 - 12	$1916	$1437

On the basis of the September 1980 enrollment in private schools, the grants to private schools in 1982 would total approximately nine million dollars. This constitutes a saving of about three million dollars for the provincial treasury, the additional amount in per pupil grants which would be paid to district boards if all such pupils were enrolled in public schools. If this saving were distributed to the public schools of the province, that would average about $7.20 per public school pupil. If all of the grants paid to private schools were distributed instead to the public schools of the province, that would amount to about $21.60 per pupil.

A compilation of statistics from Statistics Canada tables for 1975-76 indicated that for all private schools in Alberta the source of revenue was as follows: 6.3% from school boards; 28.3% from governments; 43.8% from pupil fees; and, 21.6% from other sources. Of *all* provincial grants to schools, about 0.3% went to the private sector which enrolled about 1.3% of all pupils in the province. By 1979 the proportion of provincial grants to private schools had increased to 0.6% whereas 1.7% of all pupils were enrolled in private schools.

To date per pupil grants amount to less than half the cost per pupil in the expenditures of public school boards. Presumably the cost per pupil in a private school would approximate that in a public school. Though the increased per pupil grants to private schools might encourage their establishment and development, their supporters must necessarily continue to hold a high measure of commitment.

Survey Study Procedure

Statistical information about the numbers of private schools and percentage of all students enrolled in private schools and the public funding of private schools was obtained from reports of Statistics Canada and the provincial Department of Education. Views regarding private schools were obtained by means of questionnaires directed to school boards, private schools, and parents of pupils attending private schools.

Questionnaires were mailed to the principals of all 95 schools in March, 1980. Two were returned undelivered. Of 93 presumably received by the schools, 42 were completed and returned. The percent response for each category is given in Table 1. Principals of private schools were asked to indicate in what way the objectives and program of their schools differed from schools under district boards. They were also asked to comment on discipline, admission policies, the nature of the staff and students, and on the sources of financial support.

A selected and stratified sample of 12 schools was chosen from the 32 responding schools in categories 1, 4, and the unapproved operating group, that is, schools which instruct pupils who otherwise would be attending regular schools under boards. The four responding schools in the latter group indicated that they had subsequently been approved as category 4 schools. In April, 1980, a total of 200 one-page questionnaires to parents were mailed to the principals of this

sample who were asked to have these forwarded to parents of their students. Parents were requested to return the questionnaire to the school or to mail it directly to the researcher. Most respondents returned these to the schools. The parents of at least eight of the schools responded. It was apparent that all 61 respondents were parents of children in denominational schools. As the returns were anonymous, the origin of some of these could not be determined. However, returns represented mainly parents whose children attended Christian, Seventh Day Adventist, and Baptist schools. No questionnaires were received from parents of secular schools. As no obvious differences could be determined from responses of parents representing different denominations, all responses were consolidated.

TABLE 1

QUESTIONNAIRES TO PRIVATE SCHOOLS

Category	Delivered	Returned	% Return
1. (equivalent to schools under District Boards)	48	23	47.9
2. (schools for the handicapped)	11	6	54.5
3. *(language schools operating outside of regular hours)	10	4	40.0
4. (similar to #1, but not approved for government grants)	11	5	45.5
Schools operating without the approval of the Minister	13	4	30.8
Total	93	42	45.2

*Pupils enrolled in category 3 schools for the purpose of learning a second language attend schools under District Boards during regular school hours.

The parents were asked to indicate their reasons for sending their children to private schools and also to suggest what changes in schools under district boards would meet their expectations.

Questionnaires were mailed to about 144 boards in the province through the office of the Alberta School Trustees' Association in March, 1980; 54 (37.5%) of the jurisdictions responded. It is not certain to what extent the returns reflected the actual view of board members as it was apparent that at least some of the returns had been completed by an officer of the district without consultation with the board.

School jurisdictions were asked to indicate what impact local private schools had on their programs, in what way they perceived their objectives to differ from those of private schools, what agreements or working arrangements had been implemented with private schools, and to express their attitudes and concerns regarding the growth in the private school sector.

Findings

Growth in the Private School Sector

Table 2 shows the percentage of all Alberta pupils enrolled in private schools for periods from 1919 to 1982.[1] The figures for Alberta have been consistently lower than those for all of Canada. The major explanation for this is the absence

of Catholic private schools in the province, a need met through the separate school districts which enrolled 17.2 percent of the pupil population for 1980-81. It is also of note that the proportions for Alberta, as well as for all of Canada, have varied little over half a century. For 1980-81 Quebec led with 7.2 percent of the provincial total enrollment in private schools. The other provinces which had a higher proportional enrollment in private schools than Alberta's 1.6 percent were Ontario, Manitoba and British Columbia. Newfoundland and Prince Edward Island each had only 0.2 percent of all pupils enrolled in private schools. However, recent trends suggest a modest increase for Alberta as well as for a few other provinces. The introduction of Early Childhood Services by the Department of Education may have accounted for the drop in the pre-grade one enrollment in private schools following 1970.

TABLE 2

APPROVED PRIVATE SCHOOLS AND ENROLLMENTS, 1919-1982

Year	Number of Private Schools in Alberta[a]	Percent of all Alberta Pupils in Private Schools				Percent of all Pupils in Private Schools for Canada
		Pre-Grade I	Elem.	Second.	Total	
1919-20	-	-	-	-	1.7	3.7
1929-30	25	-	-	-	2.1	4.4
1939-40	38	-	-	-	2.3	4.2
1949-50	39	-	-	-	2.1	4.7
1959-60	54	-	1.2	5.9	2.2	4.3
1964-65	45	4.3	1.0	3.6	2.2	4.1
1969-70	44	4.1	1.0	2.5	1.4	2.9
1974-75	40	0.9	1.1	1.4	1.3	3.2
1977-78	46	1.9	1.2	1.6	1.4	3.5
1978-79	57	-	-	-	1.7	3.7
1979-80	56	-	-	-	1.7	3.9
1980-81	61	-	1.4	2.3	1.6	4.2
1981-82	62	-	-	-	1.9	-

[a]Schools for the handicapped and language schools are not included.

Sources: Compiled from reports of Statistics Canada and Alberta Education.

Enrollments in category one private schools and for all schools in the province are given for each grade in Table 3 for 1980. There was little variation in the proportion enrolled in private schools from grades one to ten. The higher proportion enrolled in grades eleven and twelve in private schools may be accounted for largely by the attraction of senior high students to the colleges (Canadian Union, Concordia, Camrose, and Alberta). Generally, private schools have been attracting pupils for all grades in similar proportions. Alberta College has consistently over the years accounted for a substantial proportion of the private school enrollment in the province. For 1981, Alberta College and Strathcona-Tweedsmuir alone accounted for about 75 percent of the enrollment in nonsectarian schools.

TABLE 3

CATEGORY ONE PRIVATE SCHOOL ENROLLMENTS
FOR SEPTEMBER 30, 1980

Grade	Private Schools	Provincial Total	Percent Private is of Total
1	506	37,149	1.4
2	499	34,353	1.5
3	455	33,921	1.3
4	526	34,841	1.5
5	500	35,407	1.4
6	550	34,602	1.6
Elem. Special Ed.	-	3,498	0.0
Total 1-6	3,036	213,772	1.4
7	549	34,655	1.6
8	523	35,021	1.5
9	467	33,781	1.4
Jr. High Special Ed.	1	2,837	0.0
Total 7-9	1,539	106,294	1.4
10	510	34,984	1.5
11	696	34,547	2.8
12	1,223	34,083	3.6
Sr. High Special Ed.	-	2,146	0.0
Total 10-12	2,429	105,760	2.3
All Grades	7,004	425,826	1.6

Source: Alberta Education Finance, Statistics and Legislation Branch.

The number of private high schools has remained the same from 1976 to 1982, one secular and five nonsecular. However, the number of nonsecular private schools which offered one or more high school grades beyond grade nine in addition to an elementary program increased from six to thirteen during that same period when the total number of approved private schools increased from 26 to 46.

Alberta's private schools may be classified according to the categories given in the regulations of the Department of Education. The number of schools in each category and the number of pupils enrolled are given in Table 4 for 1976-77 and 1981-82.

The most phenomenal growth in private schools occurred through the efforts of the Dutch Reformed Church (Brouwer, 1971). Its first school was opened at Lacombe in 1945 with 26 pupils in attendance. By 1960 the enrollment in the "Christian" schools had grown to 540, by 1970 to 1780, and by 1981 to about 2500. The denomination has opted for the strong tradition of private schools prevailing in the country of its origin.

Of the 391 pupils in the category 3 second language schools for 1981-82, 260 were enrolled in 4 German schools, 92 in 2 Ukrainian schools, 32 in an Italian school and 7 in a Lithuanian school. Instruction in French as a second language is provided in many of the public and separate schools under boards. Category 3 language schools operate during evenings or on Saturdays. Their pupils attend regular schools under district boards for instruction in the regular school program.

TABLE 4

PRIVATE SCHOOLS: CATEGORIES AND ENROLLMENTS

Category	1976 - 1977		1981 - 1982		1976 - 1981
	No. of Schools	No. of Pupils	No. of Schools	No. of Pupils	Percent Enrollment Increase
Category 1 Schools (approved for grants)					
Nonsecular Schools					
Christian (Dutch Reformed)	9	1931	9	2515	30.2
Seventh Day Adventist	8	728	8	829	13.9
Lutheran	3	355	3	495	39.4
Hutterite	3	33	0	0	0.0
All others	6	696	19	2227	220.0
Nonsecular: Totals	29	3743	39	6066	62.1
Secular Schools	7	1309	7	1460	11.5
Category 1: Totals	36	5052	46	7526	49.0
Category 4 Schools (non-grant rec.)	0	0	16	530[E]	-
Category 2 Schools (for handicapped)	11	780	12	800[E]	-
Category 3 Schools (language)					
German	4	307	4	260	-15.3
Ukrainian	1	109	2	92	-15.6
Italian	1	51	1	32	-37.3
Lithuanian	0	0	1	7	-
Language Schools: Totals	6	467	8	391	-16.3
Unapproved Private Schools	?	?	18[E]	?	-

[E] Estimates

Source: Compiled from Alberta Education documents.

Ten of the 16 category 4 schools have been established by the Holdeman Mennonites. Any category 4 school which employs certificated teachers may qualify as a category 1 school after one year of operation and subsequently receive the government per pupil grants available to private schools.

Category 2 schools for the handicapped qualify for special specified government grants. Children in category 2 schools normally would not find adequate services in regular schools under district boards. Private schools for the mentally handicapped were reported as early as 1920 (Sloan, 1980).

About 18 unapproved private schools were operating in the province during 1981-82. One of these, providing instruction to about 150 pupils in grades 1 to 12, is alleged to have been operating since 1939. Although the *Department of Education Act* (section 8) provides for a fine "not exceeding $500" for the operation of a private school without the approval of the Minister, there appears to be no evidence of convictions in recent years.

Table 4 indicates further that although increased enrollments occurred in all groups of category one private schools, the numerical growth was most prominent

for Dutch Reformed and other Christian schools. No additional Dutch Reformed nor Seventh Day Adventist and Lutheran private schools were established during this five-year period, but 13 additional schools were opened by other Christian associations. To date no denominational private schools other than those of Christian persuasion have been established. Three Hebrew private schools had been established, which enrolled as many as 790 pupils in 1968. However, all three (two in Calgary and one in Edmonton) have been incorporated as alternative schools under the respective public school boards. For example, the Talmud Torah private school, established in 1912, became an alternative school under the Edmonton Public School Board in 1975 (Sloan, 1980). A small number of secular and other nonsecular private schools have in recent years obtained similar status. Of the 19 "other" nonsecular schools, seven had enrollments below 50, nine between 50 and 150, and three had more than 300 each.

The few Hutterite private schools have reverted back to being public schools under district boards. Private instruction in language and religion occurs in all schools on Hutterite colonies under the direction of the colony leadership before and/or after school hours. The regular school program is taught by a certificated teacher appointed by the public board in whose jurisdiction the colony is situated. Generally, the formal schooling of a Hutterite child is terminated upon his reaching the age of 15 when he begins an "apprenticeship" in the work-life of the colony.

Because of the small numbers in language schools, it is impossible to interpret the proportional drop in the enrollment in 1981 over 1976 as being meaningful. However, it can be noted that during a five-year period the commitment to second language learning appears not to have increased among the supporters of these schools.

Reasons for the Establishment of Private Schools

A list of 95 private schools was released by the Alberta Department of Education in early 1980. Fourteen of these were unapproved at the time, though all but five of these had already applied for approval under the terms of category 4.

As schools in categories 2 and 3 are of less immediate concern to public school systems, these are here given casual consideration only. Six questionnaires were returned from category 2 schools which serve pupils with physical, mental, and social handicaps. These schools were established by parents and associations to meet a need which had not been provided by the district school systems. Substantial public financial support for these institutions is of recent origin. Many still rely heavily upon private donations. Some have tuition agreements with school boards whose resident pupils are being served. One of the reporting schools indicated that it had recently come under the jurisdiction of the local school board and another anticipated such a move.

Category 3 schools were established to serve the interest of language groups. A Ukrainian school was founded as early as 1956, a German school in 1966, and an Italian school in 1972. Respondents indicated that about one-third of costs were covered through public funding and that the remainder was raised through donations and fees. Generally, these schools were able to use district school facilities without cost as they operated during non-school hours. A French language school, which received Early Childhood Education grants, has recently become a category 1 school and offers a French immersion program for full-time students.

Secular or nonsectarian schools. Two of the seven private nonsectarian schools responded. One of these, the Strathcona-Tweedsmuir School, is listed among Canadian private elitist schools and is the only such school in Alberta (Gossage, 1977). Its principal is a member of the Canadian Headmasters' Association. Its fees, including transportation costs, approached $3000 per annum. Its objective is "the development of mind, body and spirit to the greatest potential of the individual" and to "show students the way" with respect to "ethical and moral values." Parental participation is expected. Admission depends on the "academic potential" and the "citizenship qualities" of the applicant, and the school reserves the right to dismiss any student "whose scholarship, conduct or cooperation is unsatisfactory." Provincial grants covered approximately 20% of the cost of operating the school.

Another of the nonsectarian schools also controlled the admission of students on the basis of "quality," but managed to operate on a fee of $500 per student. It claimed not to give religious instruction but to practise the Christian ethic in living. The respondent indicated a preference to have the school operate as an alternate school under a public school board.

Alberta College enrolled about two-thirds of all students in nonsectarian private schools. As in the schools mentioned above, no religious test is applied to either instructional staff or students. The only formal link to the United Church is through its board of governors which, in practice, also appoints a member of the United Church as its president. The College offers a congenial setting for mature students to continue or resume their secondary education.

Denominational or nonsecular private schools. For the year 1980-81 about 50% of all students attending nonsecular schools were enrolled in "Christian" schools (the schools of the Dutch Reformed church) and about 13% in Seventh Day Adventist schools.

School responses to the questionnaire were characterized more by their similarities than by their differences. Generally speaking, responses from SDA schools tended to be more "conservative" in terms of expressed value orientation and the Lutheran schools more "liberal."

Reasons for the establishment of a private school such as the following were repeated by most respondents:

— To impart knowledge of the Bible.
— To teach children according to the wishes of the parents.
— To provide a Christian context and environment for all instruction.
— To provide an instructional setting in which the cooperation of home, church and school can be obtained.
— To provide children with a Christian philosophy of life.
— To promote reverence for God and kindness and tolerance to men.
— To provide Christian education to the children of the members of the church.

School calendars contained statements such as the following:

> The ideal of establishing Christian day schools as an alternative to the public schools was based on the conviction that all of life is under the direction of God and His word. . . . the fundamental unity of the school and the home must be maintained.

> Christian education has its foundations in the Creator-creature relationship as taught in the Scriptures . . . .
>
> The responsibility for education rests upon the parents.
>
> Education is more than a process of learning.

Most respondents indicated that staff members were committed to a personal interest in individual students, that individual responsibility was stressed, and that pupils were encouraged to become "disciples of Christ." One calendar statement stated that "neither permissiveness nor authoritarianism is a Biblical approach to authority and parenting." However, the general nature of responses indicated a tendency toward authoritarianism. Some of the schools indicated that corporal punishment was permitted when deemed necessary. Parents were generally enjoined to be supportive of the school and its staff in matters of discipline. The importance of student obedience was stressed. Some of the school calendars contained lists of "do's" and "don'ts" with respect to such matters as proper deportment, modest dress, questionable entertainment, profane language, and obscene literature. Teacher models were desired for good school discipline.

Most of the responding schools indicated that a proportion of students came from homes outside of the denomination or affiliation of the school. Some indicated that in order to keep the denominational character of the school, the proportion of such numbers was restricted to about fifteen percent. However, for some schools this proportion was as high as forty percent. For most schools admission depended largely on the willingness of both the pupil and the parent to be supportive of the program and policies of the school and to be in agreement with the instruction the child would receive. For example, one calendar stated that parents must sign a statement permitting the child "to be taught in keeping with the purpose and program of the school and indicating noninterference with the Christian direction of the school."

Only a few schools drew any significant proportion of their students from beyond the boundaries of the public school jurisdiction in which the schools were located.

For most denominational schools, membership in the respective denomination was a requirement for teachers. For a few, though not required, it was desired. Hutterite private schools did not have "their own" teachers. Their schools enjoyed the isolation of the colony. The provincial school program was taught by certificated non-Hutterite teachers. Religious instruction was given by a member of the colony. However, the five Hutterite private schools operating in 1980 have since all become schools under district boards.

The category 4 Holdeman Mennonite schools did not differ substantially from others in the nature of their responses. However, teachers were required to be members of the denomination, and very few of these were certificated. This is due largely to a movement of relatively recent origin to eschew institutions of higher education, including teacher education faculties, because of the belief that persons who graduate from such institutions no longer are able to impart the values and beliefs of the Holdeman church. This concern first arose among the congregations of the denomination in the United States.

Government funding in 1980 met from one-third to half of the operating costs of most category 1 nonsecular schools. The remainder was raised through donations and fees. Fees varied considerably. Some schools had a per student fee,

others a per family fee. For some schools the fee per pupil was as high as $1000 per annum.

Some of the schools reported good relationships with boards in that consulting services (and in some cases some resource materials) were provided by the public school district. For some, facilities such as the swimming pool or the physical gymnasium were made available to their students. One Lutheran school indicated a tuition agreement under which it provided grade 12 to several County students.

Returns from parents of children in private schools. The 61 parent respondents represented 131 pupils, or an average of 2.2 students per parent. These pupils were distributed as follows:

Grades	*Number*	*Percent*
K - 3	39	30
4 - 6	44	33
7 - 9	31	24
10 - 12	17	13

46% of the respondents indicated that their children had also attended a public school, and 54% that theirs had attended a private school only.

The one-page questionnaire to parents included the statement: "Please list the reasons which motivated you to send your children to the private school of your choice?" In order of frequency, the following were listed:

39 — To provide their children with a Bible or Christian oriented education.

32 — A school providing a Christian environment and Christian teachers.

15 — Avoidance of an environment in which students are tempted with smoking, alcohol, and in which values are undefined or ill defined.

11 — Good discipline.

10 — A unity of home and school with respect to purpose and direction of education.

10 — A school with a concern for the pupils as individuals.

Most parent respondents did not think that it would be possible for the public schools to meet their needs. In order of frequency, the following reasons were given:

16 — A school which has to maintain a neutral position cannot be expected to meet the needs of special groups.

16 — The modern school's values are that of secular humanism.

14 — Biblical oriented teaching cannot be given in the public school.

8 — Prayer and religious instruction is lacking in the public school.

7 — There is a lack of general authority and an absence of role models of authority and an absence of good school discipline.

6 — The emphasis on evolution pervades the instruction of science.

3 — Classes are too large for effective instruction.

1 — The public school system appears to suffer from general apathy.

Concerns of School Boards

About 45 private schools were reported to be operating in 25 of the 54 responding school districts. Eight respondents reported a substantial drop in enrollment in district schools and a consequent loss in government per pupil grants. Program offerings in some schools had been curtailed due to lower enrollments. City district respondents, however, generally reported little observable impact on their own programs and funding.

At least four respondents reported tuition agreements with private schools. One city system reported that two private schools had been incorporated as alternative schools in the system. Resource allocation was identical to that for other public schools in the district, and the per pupil provincial grant was being received by the board. In each case the original founders of the school continued in an advisory capacity and were consulted with respect to staffing and program objectives. However, such arrangements were claimed to consume an inordinate amount of administrative and supervisory time in comparison with services provided to regular schools within the system.

Sloan (1980) documents one case of an "umbrella" agreement in which both the County of Camrose and Camrose Lutheran College benefited from increased government grants. In the agreement, signed April 4, 1978 and renewed for the following year, the County of Camrose received the full per student grant for each resident student registered at the College, and paid to the College 85 percent of the grant for educational services received by the student (p. 225).

A board may also take over the jurisdiction of a private school as an alternative school in the district. The school is able to carry on with its individual program and have a school committee which acts in an advisory capacity to the board. In this manner the Caraway Creative Learning Center and the Talmud Torah School became alternative schools under the direction of the Edmonton Public School Board in 1975 (Sloan, p. 124). The Talmud Torah School, for example, is "open only to those students who are committed to the entire school program, including the Hebrew language and Jewish religious studies" (p. 211). Negotiations between the Edmonton Board and the Edmonton Society for Christian Education between 1975 and 1977 arrived at a stalemate when the Society failed to agree to submit to ultimate Board authority in matters of staffing and curriculum (p. 136).

The Immanual Christian School was unable to get the approval of an agreement with the Lethbridge Catholic Separate School District as the Minister ruled that most of the students of the private school were residents of the public rather than of the separate district (p. 141). The public board of the County of Lethbridge was not interested in an agreement with Immanual as it felt the major issue to be that of public funding, and that the private school ought to get such directly from the provincial government rather than indirectly through the public school board (p. 144).

As of February, 1982, five alternative schools operated under the umbrella of the public school board in Calgary: two Hebrew schools, the Plains Indian Survival School, a special academic high school, and the Christian Logos school. The Logos school was reported to have a long waiting list of parents who wished to enroll their children (Weatherbe & Geddes, 1982).

When asked whether the private school movement ought to be permitted to take its course under current provincial provisions, 11 of the 42 district

respondents were in apparent agreement, 12 in conditional agreement and 19 in disagreement. Conditional statements referred to a desirable requirement that an alternative be practical and economical within a jurisdiction, that a private school meet all standards required of a public school, and that a private school should not be subsidized unless it practised an open admission policy. Boards of separate school districts were inclined to favor the freedom of parents to choose private schools for their children. One respondent stated: "Our Board believes that parents have the right to choose the type of schools they wish their children to attend." Another believed that "private schools can complement the public system which cannot be all things to all people." One respondent wrote that:

> It is difficult for any of us to object to the increase in grants, particularly to denominational schools, on philosophical grounds. Catholic Separate schools enjoy 100% funding from Alberta Education and we are a denominational group.

This statement is in consort with the position taken by the Roman Catholic Trustees' Association in 1966 quoted earlier in this paper.

Although some respondents felt that public school boards might make adjustments or accommodations to parents now opting for the private school, about the same number of respondents did not see any solution in the dilemma. The wants and demands of some of the groups are particular in terms of denominational doctrine and could not be satisfied within the context of a public school. One respondent explained that in his jurisdiction four private schools had been established to serve the particular needs of as many different "Christian" denominations.

Several respondents expressed concern that private schools could control and restrict admissions whereas the public school had to serve all, including those rejected by the private school. Others opposed the financing of private schools which in their opinion promoted elitism and fragmentation. Several respondents indicated the need of at least a full year to plan adjustments prior to the actual opening of a private school. In one county the current trend was seen to lead to a situation where private school supporters would be numerous enough to elect sufficient representation to county council so that they would in fact also be in charge of the public school system!

Resolutions passed by the Alberta School Trustees' Association in 1981 urged the Government of Alberta "to delay any further increase in funding . . . to private schools until a thorough study has been undertaken to assess the nature and extent of the impact of such funding on the operation of public schools" and "to increase the present funding to school boards whose pupil population has been affected by the establishment of private schools within their jurisdiction" (Resolutions 1.DA.01-02, 1981). The ASTA Task Force on Private Schools has continued its deliberations during 1981 and 1982.

By contrast, more adamant was the position of the Alberta Teachers' Association in its 1981 resolution (confirming earlier similar resolutions of 1961, 1967, 1970 and 1975) in which it opposed "the expenditure of public funds for either direct or indirect support of private schools except those which are operated by a society or an association for handicapped pupils and which maintain a standard of instruction acceptable to the Minister" (The Alberta Teachers' Association, 1981, p. 188).

Discussion

Observations which can be made from school and parent returns are:

1. there is general acceptance of the provincial prescribed curriculum, but it is to be taught from a particular value perspective;
2. there is general support of well prepared and certificated teachers, but such instructors are to exemplify a definite Christian commitment;
3. private schools are to prepare useful and honest citizens, but such citizens are to have a Christian value commitment and perspective of life and society.

The secular or nonsectarian schools would neglect none of the virtues desired by the nonsecular schools, but the emphasis would likely be humanistic rather than doctrinaire Christian. Good scholarship, excellence, and discipline would be stressed. In most denominational, nonsectarian or secular private schools the nonconforming student would be tolerated less than in most public schools.

It is of interest to note that boards raised no concerns about private schools for the handicapped. Such schools take care of problem cases boards are ill equipped to handle. However, boards generally objected to private schools bleeding off students at the other end of the continuum, the academic and the motivated. If boards truly wish to claim that they can adequately serve all and that the school population ought not to be fragmented, it appears to follow that their actions would be consistent if they also assumed the task currently being borne by private schools for the handicapped.

It is apparent from the returns of 54 school systems that there is no consensus among respondents regarding private schools. The weight of opinion arising from these returns is only slightly in opposition to the trend in private school developments. It appears that public school administrators and elected representatives generally accept the existence and continued development of private schools as a political reality. At best, opinion would indicate that there is a need for improved provincial policy which might provide for reasonable control of the movement and at the same time provide for sufficient funding of public schools during the time adjustments have to be made until a point of operational equilibrium is reestablished.

Legislation governing private schools could be amended in order to allow for a more orderly control of developments. The direct access to the Minister makes him subject to the subtle influence of pressure groups. A statutory advisory commission, such as is found in Quebec, could provide the Minister with a more objective evaluation of each application. It seems reasonable that local school boards who are affected ought to be consulted before a decision is made. Another alternative would be a form of statutory control committees, similar to those found in British Columbia, which could assume responsibility for the quality of private school programs and for making recommendations with respect to the degree of appropriate funding.

Private school supporters also pay their share of the local property tax and the provincial income tax. They do in fact save the public money. A case can be made that they ought to have a measure of public support when they opt for private education. However, the question may well be raised whether a private school which receives public funds should have the right to be discriminatory in its admission policies. West German law, for example, permits no discrimination

based on the ability of a family to pay. Discriminatory admission policies may need to be scrutinized carefully, particularly for schools receiving public funds.

Outside of Quebec, the public funding of private schools in Canada is of recent origin. About half of Canada's private schools do not receive government assistance. The relatively strong growth in private education in British Columbia preceded the introduction of government grants. Erickson (1979) surmised that public schools may have "obtained a lot of material benefits . . . in a manner that often diminishes the things money cannot buy, such as commitment, consensus, community, accomplishment, and exceptionality." He speculated, if "public money has done much to ruin public schools" (p. 17), whether public funding may do the same harm to private schools.

An increasingly pluralistic and urbanized society requires a common or public school which essentially must differ from the school of several decades ago that served a less heterogenous community. Some private schools seek to recapture the unity of home, school, church and community which characterized many a public school in the long-gone days of the one-room country school. For example, the Holdeman Mennonites of Alberta might not have opted for the private school, had centralization not taken place following the establishment of larger school divisions.

The creation of larger local government units was one factor in shifting the "point of equilibrium" in the social, educational, economic and political milieu of this province. The growth in private schools is another. A number of adjustments will have to be worked out by government, by school boards, by public schools, and also by teacher and school trustee associations. A greater freedom in educational choice is not without its accompanying costs and hazards. Whereas the freedom of parents to choose an alternative education for their children may be tolerated, in the interest of the child and his future the adequacy of that alternative requires careful scrutiny.

Conclusion

Private schools have been established to provide for handicapped children and language interest groups at a time when the public school system had not realized an obligation. The definition of needs may be extended to include the academic, the spiritual, and group value orientations. Human rights legislation and related education statutes provide considerable freedom for a parent to choose how and where his child shall be educated. Legislation reflects the will of the legislature, and legislative decisions are, in part, responses to the needs and pressures of population segments which diverge in value orientations. The pluralistic social and political milieu of this day is not likely to permit the introduction of severe restrictions on any existing liberties. Furthermore, private schools may not only serve as an available alternative to those who are not satisfied with the public school, but may also serve as a stimulant to keep public schools more alert in improving what they are already doing. Any imposed constraints must serve to facilitate the keeping of an essential order and perspective within the total educational setting of the province.

Notes

1. The various sources from which this and succeeding tables are compiled vary in detail. For example, Alberta College has been classified some years as a denominational school and other years as a secular school. In these tables it is consistently included among secular schools. Other statistics with respect to the number of private schools and the number of pupils enrolled are not always reported consistently in various reports. These tables, however, are sufficiently precise to reflect reality adequately.

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High School Coaching as a Career Contingency

In this paper, the concept of career contingency is used to illustrate that the physical education teacher in a modern high school undergoes similar role conflicts and negotiates his social reality in ways similar to those of workers who occupy roles in other professions. The paper contains an analysis of the role of coach as it is occupied to improve the social position of an individual in the organizational setting of a secondary school.

The sociological analysis of careers has received considerable attention over the last forty years, the main thrust directed from the Chicago sociologist Everett Hughes (1937). Later, interest was demonstrated by notable studies of the professions in general (Bucher & Strauss, 1961) and psychiatry in particular (Schatzman & Strauss, 1966).

The study of sport as a career has become a familiar topic for sport sociologists over the past decade, with the role of the coach being demonstrated as an interesting area for analysis (Loy & McElvogue, 1970; Sage, 1975; Ingham, 1975) by sociologists interested in sport. Furthermore, athletic participation, education and occupational status expectations have created considerable interest in Canada and the United States. Schafer and Armer (1968, 1972), Otto and Alwin (1977) are among many who have investigated the role of sports and its influence on the futures of young players.

In terms of coaching in the school system, there appears to be a dearth of interest with the exception of J. Massengale's study of the high school coach (1974, 1977). Few studies have concentrated on the school teacher as a focus of interest in which the role of coach has received identical treatment to that received by minor and major coaching positions in North American society. Considering the prominence of professional coaching compared with high school

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coaching, it is not surprising that "high profile" personalities, highlighted by modern media techniques, continue to receive greater attention.

Not only was this study an attempt to illustrate the work processes involved in coaching at the high school level, but it also serves as a point of departure from the dominance of the structural functionalist explanations traditionally associated with sport-related topics. As a result of such attempts to explain the role of coach, most research has emphasized formal rather than substantive theoretical issues as outlined by Glaser and Strauss (1967) in their discussion of grounded theory.

In addition to these departures, one notable feature in this paper is the attempt to overcome the unfortunate prevalence in sociological research to perpetuate a view of man as a dehumanized passive object (Esland, 1971, p. 71) occupying roles in organizational structures. Such a point has been discussed by Berger and Pullberg (1965), who suggest that the dehumanization of sociology marks the point at which sociology has lost its own subject. Sociology's task must be the continuing clarification of everyday life (Berger & Pullberg, 1965).

In Canadian high schools, physical education teachers who are trained to teach in the traditional class setting frequently take on the role of interscholastic coach. This paper examines such an additional role from the perspective of responsibility upon which standards of success or failure may be attached. Measuring in terms of teaching effectiveness or being a successful coach are viewed in this paper as "patterns of interaction between people in an emergent social organization" (Haerle, 1975, p. 463).

Teachers, like all employees, occupy social space and are located in an everchanging arrangement of status positions. Such positions are associated with what and how well people occupy their roles. In the teaching profession, there are oportunities present which help individuals maintain some control over their effectiveness as viewed by others in the social structure. Teachers choose to add (and some view it as taking the opportunity of adding) responsibilities as a way of controlling success and effectiveness in the general role of teacher.

In the preparation of this paper, it was essential to select an appropriate sociological concept from which an analysis could begin. The concept of career contingency introduced by Everett Hughes (1971) was considered appropriate in examining the role of the interscholastic coach. Moreover, such a role, which appeared to be extracurricular, was socially constructed to form a contingency upon which a teaching professional could maximize his opportunity for being viewed as successful.

In order to illustrate the career contingencies of the modern high school teacher of physical education, ethnographic data gathered in the field have been used.[1] Original names of school and teachers have been replaced in order to protect the respondents, but field notes and interviews are faithfully reported in the discussion of the topic.

An Apparent Paradox

Physical education teachers, music masters, and few other teachers in Canadian high schools are particularly noted for their long-suffering efforts in the supervision of extracurricular activities. What appears to be a mutual understanding between the newly hired physical education teacher, the principal, and the school board is actually the role of coach which is an expectancy on the part of the principal and the epistemic community. Physical education teachers,

for the most part, are expected to accept a coaching responsibility whereas academic teachers are not. It should be pointed out that the entrenchment of such an expectancy has apparently cut deeper into the educational system in the United States than it has in Canada, thereby exposing the features of a possible subculture as described by Massengale (1974). Automatically, a physical education teacher is assumed to possess the expertise in almost all major sports to organize and coach them, and is expected to express a desire to do so.

This expectancy, unfortunately, assumes and places the physical education teacher in an uncompromising situation. In many cases, he may be well prepared as a teacher though he possesses little expertise in coaching, but he is expected to operate effectively and eventually will become known for his coaching endeavors rather than for his teaching qualities. Role expectations are seemingly clearly outlined and physical education teachers face difficulties if they decide to formulate their own role limitations.

While rhetoric in training institutions talks of teacher preparation, there tends to be a continued emphasis on coaching interschool teams. Such an emphasis is reinforced by the assumption and expectation of the administration that the physical education teacher will accept the taken-for-granted responsibility of interscholastic coach.

One would assume that a job description would clearly outline the responsibilities of a contract between a teacher of physical education and the employer. According to the respondents in this study, a contract does not explicitly include a definite list of coaching responsibilities, nor does it name coaching or extracurricular activity as part of the responsibilities of individuals. However, what this particular study supported was the view that physical education teachers took the opportunity to fulfill administrative expectancies such as leadership in interschool athletics in an effective and successful manner. Such opportunities, it will be shown, make up for the inadequate opportunities afforded the physical education teacher in the physical education lesson.

So the paradox would appear to be found in the situation in which physical education teachers frequently find themselves. While they may be hired to perform professional duties in the class situation, they may find more success in fulfilling professional obligations by committing themselves to an expectancy, namely interscholastic coaching, which is not clearly expressed in a job description. In this regard, physical education teachers may be fortunate in accepting an opportunity to excel in personal interscholastic endeavours which are viewed as significant contributions by the administration and school community (Smith & Johns, 1978).

Opportunities to Meet Professional Obligations

Physical education teachers are usually trained in university departments where the study of sport and physical activities is emphasized. The rationalization of sport has, until recently, been the sole content of physical education degree courses. Professional teacher preparation is later added to the "content" in the hope of blending methodology with the subject area.

The experience of young physical education teachers is often of ideal situation with groups of homogenous physically gifted cohorts in well-equipped training facilities. It is not until the reality of the transition of student-to-practitioner occurs that frustration often encountered in the real world of schools is realized.

The head of physical education in this study remarked:

> I thought I was pretty well prepared when I left university in terms of teaching and coaching skills. You know there are too many things happening when you are on the job which you are not aware of at university.

From such a remark it is possible to suggest that some adjustments in how he was trained were necessary in order for him to be effective in his present position.

Youthful idealism is soon replaced by more realistic outlooks and personal adaption catering to career problems (Faulkner, 1975, p. 528) are managed in order to meet implied expectancies to coach and fulfill professional obligations which otherwise are not realized in the class situation.

The Teacher-Coach Dilemma

The horns of an apparent dilemma appear from two sources. First, the teacher of physical education is struck by the realization that largely unrealistic goals in teaching physical education are unlikely to be achieved. Second, interscholastic athletics provides an opportunity to demonstrate professional expertise as a coach. In such a situation, it remains for him to fulfill his difficult role of teacher during the school day and take advantage of the improved opportunity to excel in the coaching situation at the conclusion of it.

Occupational Difficulties

From the data gathered and the observations made during the study, the apparent dilemma of the teacher/coach stemmed from three socially constructed situations. First, it has been a tradition of high schools in Canada and more so in the U. S. to associate the physical education area with a programme of competitive athletics. Such an association was noted in the study in which students and staff, when asked about physical education, confused their replies with the interscholastic activities: "I think that 'phys. ed.' is a great opportunity for those kids who want to improve their skills . . . like when they practise after school in the gym there's just the coach and the team."

To live up to professional obligations which teacher training institutions instill and the school administrators expect becomes, for many physical educators, a demanding if not impossible task. One physical education staff member remarked: "Teaching new grade ten classes is a bit of a zoo, you have to be a disciplinarian to get anything done." The class situation in the modern high school, especially at the grade ten level, is a difficult situation for physical education teachers. Even if they are skillful teachers, willing to develop both the intrinsic and extrinsic (Esland, 1971, p. 86) values of physical education, they are often frustrated by the large numbers with which they have to contend, the generally poor equipment for some activities, and — most important — the heterogeneity of incoming grade ten students. In physical education, as in other subjects, students ranged from exuberant to unenthusiastic and teachers sought alternative ways of reducing the alienation from which they were prone to suffer. A natural solution appeared to have been to elect to meet the expectations of the principal by upholding tradition and provide the leadership required in interscholastic sports.

To be a school coach not only supports the notion that physical education teachers are knowledgeable, but also provides the physical education teacher with the opportunity of demonstrating professional expertise in an ideal setting.

Traditional Training

Second, physical education institutions which are responsible for the preparation of teachers of physical education tend to devote a large amount of attention to the coaching of sports rather than to the preparation of teachers. The rationalization of sport does not necessarily address the issues and problems of teaching heterogeneous groups of students. The origins of such concern for the rationalization of sport are outlined in Sage (1975, pp. 400-401). Although the description pertains to U. S. colleges, parallel but less intensive developments have taken place in Canada. In a discussion with the physical education teachers at the school about the adequacy of university training, a distinct impression of institutional training was evident: "We learned a lot of techniques and rules about sports, but somehow, it didn't seem to help the teaching situations."

One teacher, preparing to teach a class in gymnastics, remarked: " I am terrified of gymnastics. They (university personnel) didn't give me much to go on when I took the course. I know about training and coaching, but I don't know how to deal with the class size and the basics."

Given the prevalence of inadequate preparation to teach in difficult circumstances, it would appear that teachers would have felt more comfortable in the coaching situation after school if they were familiar with the sport and could work under ideal conditions. It was customary at the school to encourage both physical education teachers and academics to express their interest and knowledge of specific sports by coaching them. Naturally, they rarely assumed the responsibility of a sport about which they know little.

It would seem to follow, and the data supported the view, that an emphasis on interscholastic sport was apparent. The profile of such an activity was significantly higher than the teaching of class activities and although the institutional expectancy was considered as a threat by some staff members, it was also considered as an opportunity to demonstrate expertise.

Coaching to Currency

While the realization that interscholastic sport was a means of exercising experience, knowledge, and leadership, it was also viewed by the physical education staff as a career contingency. As previously mentioned, some teachers considered their tenure threatened if they refused to offer their expertise. One teacher reacted to the question: "What would happen if you refused to coach?" with the reply: "They (the administration) would be looking around to slide you out and someone else in to do the coaching job."

However, instead of testing the case, teachers accepted the apparent threat of a challenge as an opportunity to express their value as a coach and by so doing, enhanced their career success. Interscholastic athletics nurtured the opportunity denied by the restrictive nature of the physical education class. The combination of the expectancy and their own professional training permitted teachers of physical education to negotiate and select their career patterns. Their expertise was used as a currency to bargain and deal with the administration. On the one hand, teachers accepted the responsibility of coaching while, on the other, they expected some recognition and reinforcement in their career pattern.

Career pattern expectations may be determined by the way physical education teachers feel they are seen by others. As successful physical education teachers, they may not be visible; however, as high school coaches, they may be seen not

only by colleagues in the school but also by members of the coaching fraternity in other schools. In this case the scrutiny of knowledgeable fellow coaches could be a significant judgement on the coach (Sage, 1975, p. 395). To maintain a respectable coaching record would seem to be part of the career pattern of many physical education teachers, the progress of which is dependent upon approval they receive from other coaches.

Pressures of Coaching

Career patterns among physical education teachers emerge as a result of their use of the available vehicle of interscholastic sport. On the other hand, success in the teaching of physical education is not unknown in the career patterns of physical educationists, but it is less common in Canada and the United States than it is in the United Kingdom. Mauldon and Redfern (1969) provide an example of the emphasis placed on games in education from the British viewpoint. Being a successful class teacher of physical education can also have its rewards, but in Canada its career pattern is not as discernible or prominent.

Jim Freeman[2] as a new graduate of physical education accepted the responsibilities and role of physical education teacher when he arrived at the school over a decade ago. The role in those days did not appear to be heavily committed to coaching several teams. Although Jim mentioned that the gradual increase of responsibilities grew with the length of his tenure at the school, he did not appear to be atypical in this regard. In fact, his interest and increased involvement seems typical of the expected roles of the physical education teacher.

However, the increased involvement due to professional obligation was not without its drawbacks, as Jim expressed in his comments on dropping out:

> The main reason for dropping out of physical education is that there is too much to do. I would say that the single overall factor is the overinvolvement that teachers have. The extra demands of coaching, intramurals and teaching classes and going to tournaments bury the physical education teacher and he is doing too many things. Not that they have to, mind you, but it is expected of you.

Jim also identified another contributing factor which increased the dilemma of the physical education teacher/coach dichotomy.

> A lot of physical education teachers are young and have recently married, and the increased family commitments begin to have a bearing on the problem, sometimes that can be a cop out, but there is no doubt that family life is an added pressure.

Commitments to the school teams and increasing parental and domestic duties become a problematic issue for physical education teachers with family. Unlike other staff, the physical education teacher who becomes an interschool coach has to arrange a time, usually after school and sometimes before school commences, and a location, usually the school gymnasium, to hold a practice. The game preparation demands that it take place at the gym. On the other hand, the academic teacher can take work home which can be attended to at leisure. For the coach it often means missing significant family occasions, especially for young children, such as meals and bedtime.

Summary and Discussion

It must be remembered that the data gathered and the observations made during a twelve-month period were based on a study conducted at one school with

one faculty of high school teachers. The representative nature of the subjects and the institution in which they worked was considered to be typical of teachers and schools in general. Indeed teachers insisted that they were typical of teachers in the school system. While the power to generalize (based on the small number of subjects) is clearly not present, close consideration must be given to the rich data which are retrieved when a qualitative approach, such as the one used in this study, is utilized.

With these considerations in mind, the researcher was led to the tentative conclusion that physical education teachers were placed in a unique professional dilemma which centered around their professional interest and expertise on the one hand, and the applied forces manifested in a set of institutional expectancies on the other. The data revealed a well organized group of men and women providing leadership to a relatively small group of interested students. The surface phenomenon of interscholastic sport appeared to be a successful and viable aspect of the general education of the student, albeit an opportunity in which few were able to partake. However, the deeper structures of the leadership of interscholastics exposed incongruities among the total school staff. Some teachers, especially those who taught in the academic subject areas, were found to have few expectancies exerted upon them from the administration, whereas the physical education staff felt that the possibility of losing their job, if they did not coach, was distinct.

Such expectations were believed to have had their basis for existence in the traditions of the school. It was the kind of thing which had been done in the past and few found any good reasons why physical education staff should not be expected to continue with such extracurricular activities. Augmenting such expectancies was the self-image which physical education teachers developed. One staff member suggested that physical education teachers have a sense of duty which, for some unstated reason, was not evident in most of the staff in other subject areas.

The expectancies which were faced by the physical education staff were held to be part of the rigid educational structure that had developed over the brief history of one particular high school. Those teachers who became coaches, for the most part, did not complain about the leadership duties they had willingly volunteered to carry out.

It is possible to suggest that physical education teachers enjoyed the prospect of coaching even though it was after school hours. For Jim and the other coaches, the coaching situation provided many unique opportunities not afforded them during their school day. The problems of having to teach large classes of students who were not highly motivated, often under inadequate conditions, was greatly relieved by the interschool game situations and practices. Once the everyday chores of teaching physical education were over, Jim, like many of the other coaches, entered a situation where highly motivated students were prepared to work towards a unified goal, in more or less ideal conditions.

When such conditions prevailed, coaches felt that they could exert a more complete control than that exerted in the class situation. The outcome to some extent was in their hands, the pressures of school life and the academic dependencies were part of another world left in school time and administrators' offices. At that school the coaches were almost the only persons left in the school when the teams began to practise, and were the first to arrive in the mornings for

7 a.m. training. No great interest was taken in the progress and development of a team as they prepared for the season, and no accountability except the game result was necessary.

It was apparent that teachers who became coaches generally enjoyed the opportunity of practising their expertise under conditions which were more ideal than those found in the class situation. In addition, teachers who became coaches temporarily left the world of the school's compulsory education structure for an equally rigid structure, based on tradition and expectation. Moreover, such a structure, emerging as a result of the ongoing rationalization of sport, has also developed contingencies for success in the life of the physical education teacher. It is upon such contingencies that teachers reach their middle years attaining their ambitions or alternatively begin to settle for less than they had anticipated (Hiestand, 1971, p. 1).

While this paper has superficially dealt with the possibility of coaching being a career contingency, it has also viewed the life of the teacher in physical education as an endless series of personal adaptions to the social structure. Changing expectancy into opportunity, tolerating the disadvantaged status role of class physical education teacher, and adopting symbols recognized by the social institutions in terms of personal effectiveness demonstrate the personal negotiations identified and utilized by the teacher who becomes coach. Coaching as an aspect of the teacher's career has been viewed as "the moving perspective in which a person sees his life as a whole and interprets the meaning of his various attributes, actions and the things which happen to him (Hughes, 1937). From the ethnographic data gathered in this research, it is possible to suggest that "interprofessional processes" in the teaching profession are contained in an arena involving confrontation and negotiation (Schatzman & Strauss, 1966). The physical education teacher in this study had, over the years, evaluated his chances of being a successful professional in the social structure of the school. Using what Sharp and Green (1975) called a "subjective perspective," the physical education teacher was able to view his position based on a "biographically constituted knowledge" (Esland, 1971, p. 80). Such a stock of knowledge is a social product held in conjunction with other individuals who, at varying degrees of distance, occupy his world.

It is with such a biographical perspective that teachers may view their role in terms of relative success or mediocrity. An understanding of such processes will undoubtedly contribute to a clearer view of the teacher and his career. Gathering ethnographic data provides the researcher with rich materials from which little generalization can be drawn. However, such rich qualitative data are able to provide deep structured evidence of the ways subjects confirm and construct their reality in the spatial-temporal world which, in this case, is the school (Esland, 1971, p. 80).

Hopefully, this study has demonstrated an interest in the substantial theoretical perspectives of coaching, particularly as it involves the concept of career and the contingencies which bear upon such a concept. The teacher of physical education has been the focus of this study, in order to illustrate that processes of change are negotiated with a view to improving an individual's position in the organizational structures in which he finds himself. Furthermore, it should be emphasized, again, that man is represented as an active, rather than a passive, social being in the creation of the objects of his everyday life, and by so being, plays an individual role in navigating the direction of his career.

Notes

1. Johns, D. P. *The physical educator and the structuring of his professional world: An ethnography.* Doctoral dissertation, University of Alberta, 1979. Qualitative data used in this paper were gathered in preparation of a doctoral dissertation. The field work was conducted over a twelve-month period and focused on the life world of a modern secondary school. A staff of approximately thirty academic and five physical education teachers were studied with the role of the researcher being an observer-participant.

2. Jim Freeman is a pseudonym and is used to protect the identity of the individual, his colleagues, and the institution in which they worked.

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Prediction of Third Grade Reading Ability as a Function of Performance on Visual, Auditory and Visual-Auditory Cognitive Style Tasks

One hundred and two third graders were tested on match-to-sample, cognitive style tasks in the visual and auditory modalities as well as a visual-auditory cross-modal task. They were also administered the Comprehension and Vocabulary subtests of the California Achievement Test. Multiple regression analyses provided support for the prediction of reading ability by each cognitive style task separately. However, when the effects of the other tasks were partialled out, only the auditory task maintained its predictive power. It was suggested that the auditory task measuring cognitive style tapped important elements of reading over and above those tapped by the visual and cross-modal tasks. In support of other recent research, it was also found that errors were more important that latencies in prediction although latency did contribute a little to explaining the variance of reading skills.

In the last decade, investigators have tried to identify a relationship between visual cognitive style and reading ability only to find conflicting data. Cognitive style has generally been measured using the Matching Familiar Figures test (MFF), a visual match-to-sample task in which the subject has to find the one of

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six highly similar variants that is identical to a standard line drawing. Reflectives (subjects making fewer errors and displaying longer latencies) scored significantly better than impulsives (high errors and short latencies) on several reading-related tasks such as word recognition (Erickson & Otto, 1973; Kagan, 1965; Sunshine & DiVesta, 1976), decoding (Weissbach, 1979), comprehension (Butter & Jeffcott, 1982; Butter & Vallano, 1978; Lesiak, 1971; Readance & Baldwin, 1978), oral reading performance (Butler, 1973), and first-grade reading readiness (Kalash, 1973; Shapiro, 1976; Sousley & Gargiulo, 1981). Other investigators have not found differential reading performance (Denney, 1974; Glass, 1979; Hood & Kendall, 1975; Margolis, 1976; Margolis, Peterson & Leonard, 1978; Miller, 1979) as a function of cognitive style. Therefore, the research evaluating a relationship between cognitive style and reading is ambiguous when cognitive style is visually assessed.

Other research has addressed the relationship between auditory skills and reading performance. These findings have also been equivocal. Some authors noted high associations between auditory perceptual skills and reading measures (Bruininks, 1969; Golden & Steiner, 1969; Kavale, 1981; Rosner, 1973; Wepman, 1960, 1975), while others have reported low correlations between reading and auditory perception (Dykstra, 1966; Groff, 1975; Hammill & Larsen, 1974; Lyon, 1977; Morency, 1968). A possible explanation for these conflicting results could be that studies showing relationships generally employed auditory perceptual or discrimination tasks which involve some response uncertainty [e. g., Wepman Auditory Discrimination Test; Kindergarten Auditory Screening Test (Margolis, 1977); Auditory Analysis Test (Rosner, 1973)], whereas reports failing to find shared variance have assessed auditory skills with tasks of relatively low response uncertainty (e. g., WISC Digit Span).

Researchers who investigated specific auditory subskills rather than global measures of auditory perception have found relationships with reading. Richardson, DiBenedetto and Bradley (1977) reviewed the research relating sound blending to reading achievement and provided support for the importance of this skill to reading achievement by virtue of its relationship to decoding. Golinkoff (1978) reviewed the literature on phonemic awareness skills, both auditory segmentation and auditory blending, and concluded that these skills are predictive of early and extended reading behavior. Calfee, Lindamood and Lindamood (1973) suggest that auditory segmentation is highly related to reading ability for students between kindergarten and twelfth grade.

Hardy, Stennett, and Smythe (1973) also support the importance of auditory segmentation for reading ability but feel that auditory blending is a higher-level, more complex skill than segmentation, and is more highly related to reading achievement than segmentation. Badian (1977), Corkin (1974), and Richie and Aten (1976) all provide support for a defect in short-term auditory sequential memory in retarded readers. The above research indicates that auditory factors are related to reading achievement and suggests that further research involving these factors is warranted.

Perhaps it is not only auditory skills that affects reading performance, but rather a combination of auditory skills and cognitive strategy in approaching problems of high response uncertainty. Kennedy and Butter (1978) recently addressed this issue and devised a task with high response uncertainty that could measure cognitive style in the auditory modality. The Auditory Impulsivity Task

(AIT) is a match-to-sample task similar to the visual MFF except for the modality of stimulus presentation. Standard sequences of beeps and temporal pauses are played and the subject must find the matching auditory sequence among highly similar variants. To perform well on the task the subject must be able to remember the entire sequence of beeps and pauses, must be able to integrate them into some coded pattern so that the exact match can be found, and must be able to reproduce the coded pattern for comparison. These skills, as well as a cautious approach to problems and good discrimination abilities, are thought to be necessary for good reading (see Mussen, Conger & Kagan, 1974, pp. 290-291).

The authors were of the opinion that the AIT would tap more of the skills necessary for reading than would the visual MFF. Visual tasks of response uncertainty, such as the MFF, definitely require the child to discriminate well and approach problems carefully. Although these are necessary conditions of good reading, they are not sufficient. Therefore, it is possible for a child to perform well on visual cognitive style tests and yet read poorly. On the other hand, a task which taps these abilities (good discrimination and careful approach to problems) as well as other abilities necessary for reading, should discriminate between good and poor readers and even predict potential reading ability in prereaders. Other abilities that need tapping are auditory sequential short-term memory, auditory segmentation and blending, and encoding and decoding abilities. These are all included in the AIT.

It is felt that the AIT, which measures both auditory skills and cognitive style strategies, will be a good predictive instrument for reading ability. The task provides measures of many of the auditory subskills as well as the cognitive strategies necessary for good reading. It may also be a more appropriate instrument than other auditory tasks because of its format. On the other tasks the subject is presented with the auditory stimulus only once or possibly twice and is required to make a response (same-different, yes-no, repeat the stimulus, etc.). If the subject is momentarily inattentive to the presentation of the auditory stimulus, the result will be poor performance.

On the AIT, the subject has the opportunity to listen to the stimuli as often as necessary. However, the strategy that is employed in searching for the match to the standard auditory sequence may be highly related to reading (see Lefton, Lahey, and Stagg, 1978; Snyder & Butter, 1982). The subject who responds impulsively, without care for accuracy, is more likely to present reading problems than the child who reflects over the alternative responses before making a judgment. The reflective child is more systematic in the search strategies employed and more careful in finding the match to the standard. It is, therefore, believed that a task which taps the auditory subskills necessary for reading, as well as the cognitive strategies of a good reader, will be a better predictive instrument than a task which taps only the auditory skills or only the scanning strategies.

A good deal of research has also involved the relationship between auditory-visual integration and reading (see Friedes, 1974; Kavale, 1980; Warren, Anooshian, & Widawski, 1975). Recently, Whiton, Singer and Cook (1975) reported that an audiovisual cross-modal discrimination task emerged as the best single predictor of reading acquisition in first-grade boys.

The present study was thus designed to address several questions. First, would error and latency scores on a cognitive style task in the visual modality (MFF)

predict reading ability as defined by the Comprehension and Vocabulary subtests of the California Achievement Test? Would error and latency scores on an auditory cognitive style task (AIT) predict reading ability better than visual task scores? The AIT combines those elements required of good reading ability and thus it was hypothesized that this task would provide the most powerful prediction of reading. Thirdly, would a cross-modal task of high response uncertainty involving the visual and auditory modalities more accurately predict reading than tasks involving only one modality? Finally, are errors and latency on cognitive style tasks of equal importance in predicting reading? In previous reports, subjects were divided at the median and classified into reflectives and impulsives. These two groups were then compared for simple differences in reading ability. Subjects falling outside these groups (fast-accurates and slow-inaccurates), who generally constitute 30-40% of the initial sample, were typically ignored in analyses. It may be that one dimension is more salient than the other and by reducing the sample by classifying, some effects may be lost. A multiple regression approach employing all subjects rather than a classification scheme was thus used to answer all the above questions.

Method

Subjects

One hundred and two children in the third grade (49 males and 53 females) served as subjects. All children were from predominantly middle class homes in a large midwestern city. Although intelligence testing was not permitted, the teachers and principal eliminated from the sample any child known to have extremely low intelligence. The age of the children ranged from 8 years-5 months to 10 years-9 months with a mean of 9 years-7 months.

Tests and Apparatus

Reading Test. Reading scores were obtained from the Comprehension and Vocabulary subtests of the 1970 edition of the California Achievement Test, Level 2, Form A.

Matching Familiar Figures Sequential Presentation Task (MFF-SPT). This is a modification of the MFF used by Kagan (1965) and was first employed by Kennedy and Butter (1978). The line drawings of the original MFF were presented behind doors which the subject opened one at a time. The task was to find the one of six highly similar black and white line drawings that exactly matched the standard. Two practice and twelve test trials were employed. A sequential presentation method was used to include a memory component for greater comparability to the auditory and cross-modal tasks. Siegelman (1969) reported that performance on a similar task was not different from that using the original MFF without the memory requirement.

Auditory Impulsivity Task (AIT). This is a match-to-sample task in the auditory modality patterned after the one used by Kennedy and Butter (1978). Subjects were presented with a 28 cm square, sloping panel containing seven buttons — one at the top (standard) and two rows of three buttons each (alternatives) positioned below. When a button was pressed a sequence of tones and pauses was played through earphones. The subject had to find the one button that played the exact tonal sequence as the standard. The tonal sequences generated by an oscillator were created by varying the pauses between alternating

tones of 300- and 400-Hz. Each pattern ranged between 4- and 6-seconds' duration and contained 3 to 6 tones. Two practice and 10 test trials were employed.

Visual-Auditory Matching (V-A). This was a cross-modal match-to-sample task in which the standard was visually presented and four alternatives were presented in the auditory modality. The apparatus used to generate the tones for the AIT was employed to produce the tonal patterns for the alternatives. These consisted of one-half second 300-Hz tones separated by either short (½ second) or long (1½ second) pauses. The sequence length of these tonal patterns varied from 7 to 11 seconds. The visual representation of the tonal patterns was produced by placing black dots either closely spaced or widely separated on white posterboard. In order to make the V-A task comparable to the other two, the visual standard was not continuously available. Rather, the child was required to uncover the standard each time a comparison was made with an auditory pattern. The V-A task included 2 practice and 10 test trials.

On all three tasks, the subject was allowed to examine any stimulus as often as desired and in any order, but only one stimulus could be examined at a time. On the two tasks employing auditory stimuli, subjects were required to listen to an entire sequence before pressing another button. On each task the correct alternatives were randomly placed in each position an equal number of times. For the AIT, practice trials were included in the counterbalancing to achieve this equality. The maximum number of errors allowed on any task was equal to the number of alternatives available on the task. On all three tasks, latency to first response and total number of errors were recorded. Responses consisted of the child pointing to the visual stimulus or button on each of the tasks.

Procedure

The study was conducted in three sessions. During the first session the Reading subtests of the California Achievement Test were administered to the entire subject pool as a group. This session lasted approximately one hour. The second session, which began one week later, and the third session were devoted to the individual administration of the three cognitive style assessment tasks. The sequence in which these three tasks were administered was alternated among the six possible combinations to counterbalance for order effects. Subjects generally received one of the tasks in the second session and the remaining two in the third session. All children received the third session within six weeks of their second session.

Results

The major focus of the study was to determine whether performance on cognitive style tasks, assessed in the visual or auditory modality and cross-modally, would predict reading abilities when entered into a multiple regression analysis. Prior to computing the regression equations, however, it was necessary to ensure that the MFF-SPT and AIT did exhibit the expected inverse relationship between error and latency measures reported in previous studies to establish consistency of behavior between the current subjects and samples employed before. Pearson product-moment correlations were computed for error and latency scores within each cognitive task. Significant negative correlations were found between these measures on the MFF-SPT, $r=-.45$, $p<.001$, and the AIT, $r=-.41$, $p<.001$, but not on the cross-modal V-A, $r=-.13$, $p>.05$. Order of test administration and sex effects were also examined. No overall differences were found as a function of these factors and thus scores were collapsed across sex and order in all subsequent analyses.

The global relationship between reading performance and cognitive style was assessed by means of a canonical correlation. The canonical correlation of .51 between MFF-SPT, AIT, and V-A error and latency scores and reading Comprehension and Vocabulary measures was significant, $\chi^2(12)=36.48$, $p<.001$. Thus, there is overall accord in performance on the two sets of tasks. In order to investigate this relationship in more depth, three separate series of analyses were employed using the Multiple Regression programs of SPSS. In the first series of analyses, all six cognitive style scores (errors and latencies from each of the three tests) comprised the predictor set to establish the overall relationship between the cognitive tasks and each reading measure separately. Further analyses were conducted to determine which variables of the predictor set were salient in the regression analyses. The second series of analyses attempted to explain which variables, the error or latency measures, regardless of modality would best predict the reading measures. Lastly, each cognitive style task was entered separately into the regression as predictors to determine if one modality surpassed the others in accounting for reading performance.

Comprehension as the criterion

All six cognitive style measures were entered into the regression analysis as predictors for the criterion, reading Comprehension, and resulted in a significant squared multiple correlation, $R^2=.208$, $F(6,95)=4.16$, $p<.01$. Subsequently, a stepwise multiple regression analysis was employed to determine the most powerful predictors from the set. AIT errors entered first followed by MFF errors, resultant $R^2=.174$, $F(2,99)=10.45$, $p<.001$, and no other variable added significantly to the prediction (see Table 1).

TABLE 1

SUMMARY OF STEPWISE REGRESSION INVOLVING ALL VARIABLES WITH COMPREHENSION AS THE CRITERION

Variable	R^2	R^2 Change	*F* prior to Entering Equation
AIT Error	.124	--	14.11**
MFF-SPT Error	.174	.050	6.08*
AIT Latency	.197	.023	2.82
V-A Error	.207	.010	1.21
MFF-SPT Latency	.208	.001	<1
V-A Latency	.208	.000	<1

* $p<.05$

** $p<.01$

Errors and latencies, collapsed across modality were then examined for their individual importance in predicting reading behavior as measured by the Comprehension subtest. Upon entering all three latency scores in the analysis, a nonsignificant $R^2=.017$ was obtained. Subsequently, the three error scores were examined. AIT error scores entered first, MFF error scores added significantly to the prediction and entered second, resultant $R^2=.174$, $F(2,99)=10.45$, $p<.001$, however V-A errors did not contribute significantly, R^2 change$=.006$, $F<1$. The

effects of latency were then partialled out from errors and a significant $R^2=.192$, $F(3,95)=7.67$, $p<.001$ remained.

In the third series of analyses, each cognitive task was entered separately as a predictor of reading Comprehension, to determine if one task (and thus modality) would predict reading performance better or in lieu of the others. The AIT error and latency scores together did result in a significant multiple correlation, $R^2=.133$, $F(2,99)=7.60$, $p<.01$, although the AIT latency scores did not add significantly to the correlation, R^2 change for AIT latency$=.009$, $F(1,99)=1.08$, $p>.05$. In a separate analysis, the effects of MFF-SPT and V-A measures were partialled out and the AIT error and latency measures continued to predict reading Comprehension, $R^2=.089$, $F(2,95)=5.36$, $p<.01$. The same series of analyses were performed using the MFF-SPT measures as the predictor set. A significant multiple correlation, $R^2=.082$, $F(2,99)=4.41$, $p<.05$ was obtained; however, when the effects of the AIT and V-A were partialled out significance was lost, $R^2=.042$, $F(2,95)=2.50$, $p>.05$. As with the AIT measures, all of the prediction power that existed was derived from the error component of the MFF-SPT and not latency, R^2 change for MFF-SPT latency$=.0001$, $F<1$. Finally, the V-A cross-modal task was entered into the regression equation. Significant prediction was obtained prior to partialling out the effects of the AIT and MFF-SPT, $R^2=.087$, $F(2,99)=4.72$, $p<.05$, however, as with the MFF-SPT, the effect was lost when variance shared with the other cognitive tasks was removed, $R^2=.010$, $F<1$. Again the latency measure was of little value in explaining reading Comprehension, R^2 change for V-A latency$=.001$, $F<1$. Thus, only the AIT was strong enough to maintain a significant prediction of Comprehension scores after the effects of the other cognitive style tasks were partialled out.

Vocabulary as the criterion

The same series of analyses were performed for the Vocabulary subtest as were conducted for the Comprehension scores with very similar results emerging. When all six cognitive style task measures were entered, Vocabulary was significantly predicted, $R^2=.224$, $F(6,95)=4.58$, $p<.01$. However, in the stepwise regression, it was found that V-A error entered first, AIT latency second and AIT error third and these were sufficient for prediction, $R^2=.187$, $F(3,98)=7.53$, $p<.001$. The other three variables, MFF-SPT error and latency and V-A latency, did not add significantly to the prediction (see Table 2).

TABLE 2

SUMMARY OF STEPWISE REGRESSION INVOLVING ALL VARIABLES WITH VOCABULARY AS THE CRITERION

Variable	R^2	R^2 Change	*F* Prior to Entering Equation
V-A Error	.066	--	7.02**
AIT Latency	.140	.074	8.51**
AIT Error	.187	.048	5.77*
MFF-SPT Error	.218	.031	3.80
MFF-SPT Latency	.223	.005	<1
V-A Latency	.224	.001	<1

* $p<.05$
** $p<.01$

As with the Comprehension subtest, latency scores alone were not sufficient to predict Vocabulary skills, $R^2=.034$, $F(3,98)=1.16$, $p>.05$. However, error scores did significantly predict Vocabulary performance, $R^2=.096$, $F(3,98)=3.48$, $p<.05$, and this prediction was maintained after the effects of latency were partialled out, $R^2=.190$, $F(3,95)=7.76$, $p<.001$. The strength of the prediction was derived mainly from the V-A error variable, with little added by the AIT and MFF-SPT measures, R^2 change for AIT and MFF-SPT=.016 and .015 respectively.

The effects of the individual cognitive style tasks were then assessed in relationship to Vocabulary scores. The AIT (error and latency) scores did significantly predict the reading measure, $R^2=.128$, $F(2,99)=7.26$, $p<.001$, with relatively equal importance reflected in both the error and latency values (AIT error entered first with $R^2=.050$ and R^2 change for AIT latency = .078). After partialling out the effects of the MFF-SPT and V-A measures, significance was maintained, $R^2=.103$, $F(2,95)=6.31$, $p<.005$. When the MFF-SPT measures were used as the predictor set, significance was again obtained, $R^2=.082$, $F(2,99),=4.44$, $p<.05$. However, as with Comprehension, the effect was lost when AIT and V-A measures were partialled out, $R^2=.038$, $F(2,95)=1.75$, $p>.05$. As in the analysis of the AIT variables above, the MFF-SPT error and latency components shared almost equally in importance of the initial prediction, $R^2=.048$ for errors which entered first, and R^2 change = .034 for latency. The V-A regression analysis of Vocabulary was similar to Comprehension with V-A error and latency significantly predicting this reading subtest, $R^2=.067$, $F(2,99)=3.48$, $p<.05$; however, after partialling out the MFF-SPT and AIT errors and latencies, all effects were lost, $R^2=.029$, $F(2,95)=2.07$, $p>.05$. The V-A measures differed from the others above in that only V-A errors were salient in the initial prediction, with the V-A latency scores producing an R^2 change of only .001 ($F<1$).

Discussion

The results of the present investigation lend support to the relationship between cognitive style and reading performance. The significant canonical correlation of .51 indicated an overall relationship between the two reading measures and the six cognitive style variables. When this relationship was further evaluated, it was found that each cognitive style task separately predicted reading behavior. It is proposed that the present findings may be attributed to the utilization of all subjects in a multiple regression analysis whereas previous investigations may have failed to find differences in reading ability as a function of cognitive style performance because of their dichotomization of subjects into reflectives and impulsives.

When the error and latency scores of the MFF-SPT were entered into the multiple regression analysis, both Comprehension and Vocabulary were significantly predicted with 8% of the variance accounted for in each reading measure. Thus, cognitive style in the visual modality has been found to predict reading behavior. As with the MFF-SPT, when the error and latency components of the AIT were entered into the regression equation, both Comprehension and Vocabulary were significantly predicted (13.3% and 12.4% of the variance accounted for respectively). Therefore, cognitive style in the auditory modality also proved to be a significant predictor of reading ability. Similarly, the cross-modal integration task, V-A was capable of explaining enough variance in the two reading measures to reach significance (8.7% for Comprehension and 6.7% for Vocabulary).

Although both the MFF-SPT and V-A accounted for a statistically significant proportion of reading variance, the AIT was more powerful in its prediction. When the effects of the V-A and AIT were partialled out of the MFF-SPT error and latency scores, significant prediction of both reading Comprehension and Vocabulary was lost. The same was true when AIT and MFF-SPT effects were removed from the V-A measures. However, when the effects of the other cognitive tasks were partialled out of the AIT, errors and latency continued to account for a statistically significant proportion of the variance in both the Comprehension (8.9%) and Vocabulary (10.3%) subtests. Note that more variance was accounted for by the AIT after the other tasks were partialled out than was accounted for by either the MFF-SPT or V-A before any effects were removed. It is therefore apparent that cognitive style in the auditory modality, as measured by the AIT, does tap important elements of reading behavior over and above that offered by either the MFF-SPT or the V-A. It is hypothesized that some of the specific skills related to reading identified by only the AIT might include auditory short-term memory, temporal integration and the processes of encoding and decoding.

There has been a suggestion in several studies that the latency measure may be of little value in explaining a child's cognitive performance (Block, Block & Harrington, 1974; Haskins & McKinney, 1976). Therefore, the relative importance of both errors and latencies was evaluated to determine if the two variables were equally salient in the prediction of reading. It was clear from all results using Comprehension as the criterion that errors far surpassed latency in importance in the prediction of reading. Errors accounted for 18.2% of the total variance associated with this reading measure while latency accounted for less than 2%. The effect of errors was not as strong with Vocabulary as the criterion but was still sufficient to account for 9.6% of the variance. Latency did account for 3.4% of the variance but this did not reach significance. However, when the relative importance of errors and latency was investigated within each cognitive task, the latency measure did contribute significantly to the prediction of Vocabulary scores on both the MFF-SPT and the AIT. However, latency was of negligible importance on the V-A, possibly due to the decrease in response uncertainty as reflected in the nonsignificant error-latency correlation for this task.

Two other points need to be mentioned with regard to predicting reading from cognitive style tasks. Some may feel that actually very little of the variance in reading was accounted for by the cognitive measures. Actually, the greatest multiple correlation obtained accounted for only 22.4% of the variance. If one were dealing with a criterion that was very restricted in nature and readily stable in the environment, a squared multiple correlation of .20 to .25 might be considered too small to be of great value. However, the present research is dealing with a skill of great complexity and one affected by a host of variables. When investigating reading, one would be naive to believe that one cognitive function is directly and solely responsible for performance. Rather, it is the intent of the current study to identify a task which is a salient predictor of reading without ignoring the other variables involved (perception, intelligence, etc.). To account for over 20% of the variance in reading scores is considered by the authors to be a large step in determining the less obvious factors affecting reading.

Secondly, it may be contested by some that all the results obtained in the present design could be attributed to intelligence. That is, the smarter the child the better that child will read and the better that child will perform on difficult tasks of response uncertainty. It was not possible to obtain IQ scores from the

school due to restrictions in the local school system and therefore a direct test of this argument is not possible. However, the authors would not argue with the contention that intelligence is a major factor affecting all tasks employed here. The authors believe, however, that the cognitive style tasks are a more useful explanation of reading behavior, not independent of intelligence, which tap the actual components that directly affect reading acquisition. With the identification of these more specific behaviors and capabilities, reading may be better understood than with the general label intelligence. Recently, Richardson, DiBennedetto, Christ and Press, (1980) called into question the use of intelligence scores to compute expected reading levels.

Finally, the authors realize that the AIT is a task of great complexity that taps many functions and abilities. At this point it is difficult to say exactly what is predicting reading. Future research must be directed towards more analytical studies looking at both auditory factors and cognitive style factors and how they relate to reading. A recently completed investigation (Snyder & Butter, 1982) demonstrated that poor readers made significantly more errors and responded with significantly faster latencies than did good readers on an auditory cognitive styles task. Additionally, the poor readers demonstrated inefficient scanning strategies suggesting that good reading skills, as well as successful performance on the auditory task, requires a certain degree of planning and self-monitoring activity.

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PERSPECTIVES

Alternative Views of the Relationship Between Education and Social Inequality

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Introduction

Most of the recent research in the area of sociology of education is an effort to understand the functions schools serve. The emphasis has been, and continues to be, on equality of educational opportunity; this has basically meant open competition for schooling, and then for social positions. The main argument is that schools function to maintain and reflect social inequality. The analyses emphasize the objective reality; that is, the social forces which determine educational ideology and school members' behaviours. A new approach, however, has developed, challenging the "deterministic" perspective. Meighan (1981) notes:

> it is argued that a serious limitation of the perspective . . . which emphasizes the objective reality, is that the observer of society is seduced into caricaturing the individual as being determined, assigned to his role by some force more powerful than himself, or, in Garfinkel's poignant image, as being "a cultural dope." (p. 223)

By "cultural dope" Garfinkel is referring "to the man-in-the-sociologist's-society who produces the stable features of the society by acting in compliance with preestablished and legitimate alternatives of action that the common culture provides" (Garfinkel, 1967, p. 68).

The perspective presented in this paper draws on both social phenomenology (Schutz, 1964) and ethnomethodology (Garfinkel, 1967). The stance taken is that the relevance of social reality for school members has been neglected by the majority of theoretical perspectives. Social scientists who have scrutinized the educational process have developed various views on educational and social inequality (Table 1). These reflect a continuing concern with social class, raising

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questions about the role of educational systems in reproducing the class structures. These, in turn, have raised moral and policy questions.

However, the situational, day to day, routine activities of those who experience school life have been ignored. Schooling, here, is viewed not only as a process in which objective tests of performance and teacher expectations provide a basis for selection and social differentiation of students, thus producing social inequality. Schools are also places where there are routine activities which structure the teaching-learning situation. More specifically, there are taken-for-granted aspects of the routine activities of teaching which are significant and operate to sustain a specific order. (For example, students must display appropriate behaviour so that teachers can get on with teaching what is considered to be "relevant and valuable.") Although teachers' judgements are grounded in ideological presuppositions, these should be carefully questioned with the intent to challenge the common view that education inherits from the economic system particular values which affect selection, socialization, and status positions of students. We could concern ourselves with analyzing how members in school organize, manage, and deal with their activities to accomplish their tasks. We could ask what teachers' needs and problems are and how they decide what rules to use in classroom organization.

The important point is that there should not be an exclusive use of a single perspective which simply creates a cycle of blame and condemnation. In this paper there is a call for making problematic the taken-for-granted assumptions sociologists have about schools and school members. The paper contains an

TABLE 1

FUNCTION OF SCHOOLS:
PERSPECTIVES AND DEFINITIONS OF INEQUALITY

Perspective	Definition of Equality in Education	Function of School
Functionalist (Parsons, Dreeben, and Coleman)	Free education, common curriculum, equal school facilities and school inputs (per pupil expenditure, quality of teaching, etc.)	Schools serve to produce "usable" skills in order to maximize social and economic opportunity for each individual.
Radical (Jencks, Bowles and Gintis)	Fair competition where individuals have equal chance to do well in school and equal access to high status position.	Schools produce credentials on the basis of social class background which lead to high status positions. Therefore schools reproduce and legitimate social inequality.
Interactionist (Becker, Persell, Cicourel and Kituse, Cicourel et al.)	Equal chance to learn "appropriate" meanings and rules in the school setting.	Schools perpetuate existing social inequality through the interpretation of pupils' behaviours. These interpretations are based on institutionalized meanings of education.

analysis of the various perspectives developed to explain the relationship between education and social inequality. It is then pointed out how teachers' practical reasonings and the structuring of routine activities in the school are part of a process which contributes to perpetuating and sustaining educational and social inequality. The argument is that those who claim that schools simply reproduce "structural" inequalities have misconstrued the nature of the problem. Teachers' behaviours in sorting and selecting their student population are often idiosyncratic and situationally specific behaviours, displayed in everyday occurrences which are routine and regular. Inequality is a "fact of life," emerging "naturally" as teachers organize their everyday activities.

Functionalist Perspective

The ideological convictions of the functionalist's view are appropriate to the salient concerns of a developing industrial society. This perspective offers an explanation and justification for the role of schools in society. School is important because schools teach the necessary skills and norms to participate in society, and because they sort and select people to fill the most important positions in society. It views modern, industrialized, western societies as characteristically democratic, expert and meritocratic (Hurn, 1978). Ability and effort to succeed count more than privileges or inherited status. The contention here is that governments have tried to increase opportunities for success (the attainment of high status positions) by expanding higher education, increasing school resources, introducing universalistic rules for employment, etc. From this stance, achievement on the basis of individual ability and effort (rather than ascription or inherited rights) is a rational and morally justifiable way of sorting the student population for future occupations and social status (Hurn, 1978).

This perspective is perhaps most clearly reflected in the works of Talcott Parsons (1959), James Coleman (1966), and Robert Dreeben (1968) and reviewed by Hurn (1978). The classroom is viewed as a social system, socializing and allocating individuals on the basis of the criteria assigned to it by the larger society. The concern is with how differentiation of status occurs on the basis of achievement. The assignment of differential rewards to various positions in the status hierarchy is viewed as a necessary technique to motivate talented individuals to achieve high status positions. Furthermore, this perspective argues that any educational changes which have occurred have been directed towards the realization of a more meritocratic society as well as responding to the changing demands of technology (Hurn, 1978).

Dreeben, in particular, concentrates on what children learn through their social experiences in school. What they learn are norms such as independence, achievement, universalism and specificity. Generally, these norms are learned through the structural properties of the school (age-gradedness, classroom organization, classroom activities). Thus it is structural characteristics which generate particular kinds of behaviour. Pupils in school learn to come to terms with specific status positions, roles, role obligations or tasks and therefore behave appropriately. Roles are defined by the learning of the accepted social norms. His concern with how these norms are acquired is also a concern with the inequalities inside and outside the school. For him, equity involves a process of a comparative assessment of individuals' situation — their gains, losses, rewards, punishments, rights, duties, privileges, responsibilities. In order for individuals to realize that a situation is an equal one, they must realize the differences between themselves

and others in terms of norms, and this realization occurs through the socialization process in the school. Inequality, then, is generated in the socialization process.

The assumptions which functionalists have made can be summarized as follows: Schools teach the norms the larger society wants them to teach; teachers with training should teach; pupils must learn basic skills in school through curricular teaching and classroom experiences; the school's function is dictated by the economy and occupational structure of a developing modern industrial society; and, finally, educational expansion offers greater opportunities for attaining higher social status.

Radical or Conflict Perspective

In the seventies a controversial debate developed about talent or intelligence and school achievement on the one hand and the relationship between schooling and the future status of individuals on the other hand. Jencks (1972) and Bowles and Gintis (1976), in particular, challenged the functionalist perspective concerning these issues. They argued that IQ scores, occupational status and income are positively correlated. However, when socioeconomic status is controlled, IQ does not have an extensive effect on the individual's future earnings or occupational status. That is, the socioeconomic status of parents, to a large extent, determines an individual's future occupational and economic status.

The Jencks study attempts to set forth an explanation of this relationship. The study specifically challenges the common belief that equalizing educational attainment will result in greater equality of economic opportunity and therefore equal opportunity to secure higher status positions. The implication of the study is that equality of educational opportunity in itself is not enough; it is more economic equality rather than more education which is required to achieve equality of social opportunity.

In a sense the study can be viewed as a response to the functionalist argument which claims that modern society is becoming more meritocratic. The study points out that if we examine the relationship between educational level and occupational status and income, we find that those who do well in school do not necessarily obtain high status jobs nor do they earn more money. Although high cognitive skills help individuals obtain better jobs, those jobs do not always accrue high status and more income. In fact, when educational attainment and family background are controlled, the relationship between high cognitive skills and better jobs as well as higher income decreased significantly (Jencks et al., 1972, p. 186).

The main point is that education should not be viewed as a mechanism for equalization strategies. Income equalization must first be developed. Education and school achievement is important only to the extent that the attitudes required in the occupational structure are taught in school. That is, schools socialize individuals to conform to values of dominant social groups and classes in society (cf. Bowles, 1974; Bowles & Gintis, 1976).

The Jencks study is addressed to the "policy-makers" and the issues of school reform rather than to the solution to equalizing effects of schooling. Jencks suggests that "Instead of trying to reduce people's capacity to gain a competitive advantage on one another we would have to change the rules of the game" (1972, p. 8). In this way we can reduce rewards of success and costs of failure. Furthermore, "until we change the political and moral premise on which most

Americans now operate, poverty and inequality of opportunity will persist at pretty much their present level" (1972, p. 9).

Jencks, however, does not deal with how the rules of the game are operative in the organizational setting of the school. The use and development of rules, attitudes, values as an integrated part of the schooling process are rationalized as being insignificant because they cannot be measured (1972, p. 134). Schools are places where members participate in various activities, and those activities are judgemental. That is to say, schools are places where certain activities take place for a reason; thus there are evaluative considerations given to those activities. Part of the evaluative consideration is based on practical reasoning and circumstance. This fact must be necessarily an important part of the analysis of the educational process and its relationship to social inequality. The school, as part of the general educational process, consists of what members do, not merely of causes and effects of what they do. Thus in seeking causes and effects, or seeking the source of educational and social inequality, the Jencks analysis overlooks interactional processes (including assessment of activities) which may generate and sustain patterns of inequality.

This point is evident from the study that only progressive taxation would equalize the distribution of income and would result in more social equality. There is a call for devising an insurance system which would neutralize the effects of luck and a development of an income-sharing system which would break the link between vocational success and living standards. The implication is that individuals would be responsible for each others' actions. But, imposing more progressive taxation laws will not legislate a change in attitudes, values or the rules which govern social conduct. Alternative insurance systems are meaningless unless they are recognized and valued as viable alternatives by members of society.

Another study with a similar theoretical orientation is that of Bowles and Gintis (1976). Rather than concentrating on the practical activities of school members and how they go about constructing meanings in classroom interactions, the authors focus on the school's role in reproducing the class system and extending the capitalist mode of production. Their argument is that the political process, through powerful economic interest groups, determines education's role in reproducing and legitimating social and economic inequality. Indeed, for them the root of inequality is the capitalist economy, not education. Schools reproduce and legitimate inequality by perpetuating and reinforcing (a) the meritocratic ideology of allocating individuals in the occupational hierarchy; (b) rewarding personalities which are compatible with the relationships of dominance and subordinancy; and, (c) by serving the interests of the dominant groups through the training of an elite group in the skills of domination (1976, pp. 11-13).

Although Bowles and Gintis acknowledge a relationship between occupational placement and different levels of education they firmly challenge the functionalist assumptions that occupational status is linked to educational attainment; that educational expansion has increased opportunities for the lower classes and minority groups; and that the school's selection and sorting process is based on achievement and not social status, religion, sex, or race. Indeed, schools teach values and attitudes which reinforce the class structure. Schooling is a mechanism which fosters passivity and political acquiescence rather than independence, particularly in working-class oriented schools.

The perspective discussed above emphasizes that it is the values and power of the economic structure which order activities and determine the nature of the social order and therefore the inequalities existing within that order. This more economic-based view focuses on institutional structures and how these act on the stratification system. Teacher career patterns, cultural differences, financial support and systems of power and authority all work against the lower social strata whose social characteristics are regarded as negative by schools. Lower class children, in effect, develop a perspective and interests within the limitations of their status within the school. It is the process of what Becker (1970) calls "situational adjustment" to institutional practices which maintains social inequality.

Bowles and Gintis explain the process as follows:

> Consciousness develops through the individual's direct perception of and participation in social life . . . . For instance, when the working population is effectively stratified, individual needs and self-concepts develop in a correspondingly fragmented manner. Youth of different racial, sexual, ethnic, or economic characteristics directly perceive the economic positions and prerogatives of "their kind of people." By adjusting their aspiration accordingly, they not only reproduce stratification on the level of personal consciousness, but bring their needs into (at least partial) harmony with the fragmented conditions of economic life. (1976, p. 128)

Thus, beginning with social structural realities such as wealth, power, and status position, an attempt must be made to link these with interactional patterns. In other words, our task now is to understand how structural variables become incorporated into the individual's perceptions and interpretations and how the individual acts on the basis of these.

Social Interactionist Perspective

Caroline Persell (1977) attempts to link structural variables and interactional patterns to explain inequality in education. She presents a theoretical paradigm which deals with four levels of analysis — the societal, institutional, interpersonal and intrapsychic. At the social level she draws on Marx and Weber to point out how "structures of dominance" and the ideologies associated with these (structures) are interdependent. The educational system is shaped by the structurally derived ideologies. This system, in turn, supports the existing structures of dominance. The institutional level (the structure of the educational system), then, is shaped by the polity and economy. The schooling process — achievement testing, ability grouping and tracking — reflect the structural needs of society.

By drawing on symbolic interactionist theory she then goes on to explain the interpersonal and intrapsychic levels. Here the focus is on the origins and consequences of teacher expectations. Teachers develop expectations and respond to pupils on the basis of widely accepted criteria of judgement of school performance. Teachers' differential expectations serve to limit educational attainment of minority and lower class students. Thus Persell relates teachers' expectations to institutional and societal structures. Indeed social interaction in classroom settings affects decision-making processes. And, most important, decisions are based on perceptions of surrounding social structures.

Other studies (Cicourel & Kitsuse, 1963; Cicourel et al., 1974; Bernstein, 1974; Keddie, 1971; Payne, 1976) specifically point to how achievement tests are biased

against some groups and favourable to others. From their perspective, cognitive ability cannot be measured through standardized tests, since it is a developmental process whereby students attempt to understand rules which are not made explicit in interactions between teachers and students. The taken-for-granted assumptions and the professional legitimacies of teachers and how these are related to what happens in classroom interactions then become the focus of analysis. The contention is that we cannot assume interpretations of meanings, definitions and the recognition of rules. Teachers' expectations and responses to students in classroom interactions are not only based on interpretations of "institutional" and "societal" structures, but expectations and responses are generated from the teachers' practical concerns.

Persell's analysis does not adequately explain the above process. She emphasizes that the bureaucratic organization of the school, which is controlled by the dominant ideology, perpetuates differential access to rewards, status, prestige, etc. through the tracking system (grouping pupils on the basis of ability). The effects of tracking on teacher expectations is of key importance, since it is directly related to teacher-pupil interaction and pupil performance (1977, p. 121). Hurn, however, argues that the available evidence does not support this view. He states:

> Differential expectations for students of different status, tracking, and student subcultures hostile to official school norms are all "prima facie" plausible explanations for differences in student performance by class and race. None of these explanations, however, has been empirically demonstrated to be a major cause of such inequalities. The evidence is either weak or inconclusive. (1978, p. 163)

Routine Activities and Practical Reasoning in the Classroom: The Problem of Social and Educational Inequality

The various perspectives discussed above tend either to make the teacher morally responsible for the existing inequality in educational opportunity (through expectations of meanings structures) or to focus on the socioeconomic structure and how that structure (through societal values) imposes a particular educational ideology. The relevant point is that by merely concentrating on dominant educational ideologies of teacher's expectations we eliminate the possibility of reflecting upon the process by which teachers come to understand "the reality of the classroom" or their common sense accounts of reality. What is needed is an analysis of what equality means in terms of its relevance for the teacher. If we ask teachers, for example, if they believe in equality we will find that they may believe in equality but the way they organize their classrooms belies that belief. Schutz has noted:

> The common sense aspects of equality depend on the "structures of relevances" . . . Equality has a different meaning when interpreted by members of the group under scrutiny (in-group) in terms of its own system of typifications and relevances; when interpreted by members of other groups (out-groups) in terms of theirs; or finally, when interpreted by the social scientist who inquires into either or both. (1964, pp. 226-227)

Schutz offers more than a perspective from which to analyze inequality. We can say that the in-group consists of teachers who know what they are doing and how they are going about doing their tasks. The out-group consists of social scientists who have overlooked what tracking, grouping, or order mean to the

teachers. Blumer criticizes the simple determinist explanations and urges the sociologist to focus on subjective interpretations:

> Structural features such as "culture", "social systems", "social stratification" or "social roles", set conditions for their action but do not determine their action. (1969, p. 89)

Thus, to explain social differentiation in the classroom in terms of teacher expectations or pupil social class background might be useful, but it does not give a full explanation of how pupil categorization occurs.

This paper provides an argument for a social phenomenological approach, one which calls for considering structural and interactional aspects of social phenomena. Educational inequality has been analyzed by "outsiders" neglecting the teachers' interpretations and definitions of the ongoing classroom activities. There are aspects of the teachers' action orientation other than the dominant educational ideology and intellectual training. For instance, there are subjective reasons for the teacher's use of specific criteria to judge pupils' behaviours. Teachers act in an intersubjective reality: that is, they draw on larger social contexts *and* the reality of the classroom situation to make decisions about their pupils. They have their own immediate interests and motives. Actions are understood by teachers in relation to what they want to accomplish. It is purposes and circumstances, then, which affect the meanings which will be drawn on to evaluate, sort and select the student population.

The concept of purpose is relevant to the analysis of how social inequality is generated in the classroom. Teachers are not specifically aware that their purposes produce political, moral, and social consequences. That is, in their daily, practical concrete encounters with pupils in the classroom, teachers are not constantly reflecting on their political beliefs and the social consequences of their actions. Teachers' purposes also generate general interests. For instance, rationalizations and actions are made to accomplish specific tasks in the classroom but at the same time these serve general social interests. The concept is also important to the extent that it helps us understand how teachers *inadvertently* reproduce existing social structures. If we find that there are more lower-class and minority group children in low ability groups in the classroom, it is not simply that discrimination occurs due to teachers' expectations, dominant ideologies, and education structures. There are routine activities in the classroom which call for grouping for practicality. For example, in a recent study, the author observed teachers in an inner-city English elementary school where the majority of the student population were recent immigrants and whose first language was not English. Teachers did not always use performance as a criterion for grouping their pupils for various activities. At times they used compatability or whatever other criterion would permit some measure of order in the classroom. It is purpose and/or interest to "get a job done" which leads to the differential treatment of pupils in a classroom.

Indeed, we do not have studies which analyze the teachers' reasons for structuring routine activities the way they do. We have been more concerned with the implications of classroom interaction for the pupils (cf. studies in Hammersly and Woods, 1976; Keddie, 1971; Cicourel et al., 1974; Corrigan, 1979). The notion that teachers hold expectations which they have internalized and which reflect the dominant ideology assumes that disparate definitions of situations and actions occur, but these are due to conflicting subcultural traditions or idiosyncratic

deviations from the culturally established norms. What is being suggested is that an analysis of teachers' meanings, conventions, and pragmatic actions could enable us to see that teachers' methods of organizing classroom activities or their interactions with pupils are not based on standardized norms or role expectations alone. They are situational, practical, and purposeful.

Anthony Giddens suggests that there has been a failure "to treat social life as actively constituted through the doing of its members" (1976, p. 21). From his stance, there is a production and reproduction of structure. He introduces the notion of "structuration" which is a reproduction of practices individuals use to bring about structure. Human actions cannot be reduced to the internalization of norms or values. We must "make conceptually central the negotiated character of norms, as open to divergent and conflicting 'interpretations' in relation to divergent and conflicting interests in society" (1976, p. 122).

Hence the stability of the social structure of the classroom is dependent on the communicative, perceptual, judgmental and accommodating or adaptive processes. The structure is emergent, not given. The accepted practice of being able to interpret ability and performance is treated as morally required by teachers in order to get something effectively taught. It is not treated as a deliberate action for producing social differentiation. In structuring classroom activities teachers do not select pupils for groups on the basis of previous knowledge about pupils (or prescriptive judgements). Rather, they select pupils for groups as a consequence of judgements as they go about accomplishing their tasks. They choose to act on the basis of what seems to them a "normal course of action", one which is based on practical and pedagogical interest. Teachers' "normal course of action" may reflect the meritocratic ideology and may seem to legitimize inequality. But their actions are also a matter of personal inadequacy rather than something which is fostered by the social or economic system. It is these two aspects — subscribing to the ideology and using it to legitimize inequality as a *personal* matter — that the present educational structure and ideology are maintained. It is the sheer reality of having to get a job done, given that there are all sorts of constraints on how to get it done, which generates and sustains inequality in the classroom.

Thus teachers categorize information about their pupils and structure routine activities in the classroom on the basis of their social, common sense reasoning, and their motive to teach. Teachers do not necessarily reflect on the social implications or consequences of their common sense knowledge and reasoning. Leiter explains:

> Commonsense knowledge of social structures, the everyday world, the mundane reality . . . All these terms refer to the structure of commonsense reality as it is perceived, assumed, and taken for granted by members of society. Each term refers to the fact that all projects that take place in the "wide-awake working world" (Schutz, 1962, p. 14) are founded upon the presupposition that the working world is an environment that is independent of perception. (1980, pp. 68-69)

Leiter is pointing out that individual members' use of social knowledge is tacit and taken-for-granted. This knowledge is used to produce a sense of order to accomplish activities. Teachers will negotiate with themselves and among themselves to decide which rules to apply when structuring classroom activities. That is, they will consider their motive or purpose before applying a rule. For example, teachers may decide to exchange "troublesome" pupils simply to get

relief, or a teacher may decide to put a bright pupil with a group of slow pupils during a reading class simply to get some "good teaching time" with another group. These are pragmatic, organizational actions; they are not meant to categorize pupils but rather to create a situation where the teacher can accomplish a task. Teachers do not necessarily perceive the basis on which they have made decisions. Leiter states:

> The commonsense reality is precisely this sort of prejudice, for it arranges for people to see the world as a factual environment at the very outset. The social world is not perceived by people as a set of random, unpredictable, unique events and appearances. Quite the contrary; it is perceived as being orderly, meaningful, and factual. Even events that are puzzling promise some explanation that awaits discovery. (1980, p. 71)

Summary

In this paper I have pointed to various theories about the relationship between the formal educational process and inequality. While schools are viewed by the functionalist theorists as institutions designed to create a more meritocratic society, others respond by questioning the validity of claims that the meritocratic principle in fact guides western industrialized society. We find that studies which have come to dominate the area of sociology of education have consistently focused on the effects of schooling, differential school performance and educational outcomes. Indeed much of the effort to define these processes has concentrated on the classroom as a microcosm of the competitive capitalistic system, developing and rewarding the attitudes and interaction patterns necessary for functioning in that system.

The argument posed in this paper is that if we are to understand how unequal educational opportunity is maintained and how it is related to social inequality, then we must understand how these processes operate in the social organization of the school in general, and in classroom situations in particular. Studies have separated the "social reality" of teachers in the classroom from the debate on social inequality. We cannot explain teachers' activities without explaining how they perceive their actions. It is this feature which researchers have taken for granted, particularly those who have concentrated on the problem of education-social inequality. The point is that whilst teachers treat their actions as moral accomplishments, we, as sociologists must also view our interpretations as moral and political. The moral considerations of teachers and researchers involve taking into account institutional practices, deliberate both morally and practically. Their grounds for action reflect the properties of "their setting." Reasons for action are "good reasons" if they permit a measure of order or if they follow the institutions' logic (Garfinkel, 1967). Similarly, reasons for holding to traditional explanations are good reasons to the extent that they legitimate the existing social structures.

If sociologists are particularly interested in the relationship between schooling and social inequality, then the focus should be on the meaning social differentiation has for school members and not merely on what social differentiation means in terms of maintaining an existing social order. There is no doubt that there are constraints existing outside the school; however, we must

understand how these constraints are reflected in school members' everyday lives. As Smart stresses:

> Science is unnecessary if the outward appearance of things coincides with their "actual form". Sociology attempts to achieve a scientific analysis of social life; to begin to do so successfully it must recognize the historical, socially constructed and interpreted character of social facts. The issue will become clearer when we understand that the phenomenal form in which reality appears is a product and consequence of the nature of underlying social relationships and that our sociological analysis must therefore commence by suspending belief in, by doubting, "bracketing" and critically examining the given "facts", social order or society. In such terms sociology becomes a form of social criticism, a form of ideology critique. (1976, p. 176)

Perhaps we should begin to doubt the argument that the link between education and social inequality lies in what schools teach, the school's selective function, or the social class structure of our society. Perhaps we should critically examine the concepts presently used to analyze educational and social inequality. For the most part (particularly in Canada and the U.S.), sociologists of education continue to explain various aspects of schooling using traditional approaches. Their theories have become "institutionalized" and are often used to legitimate school members' practices (Sarrup, 1978, p. 15). There has been a growing awareness, however, that there should be a critical questioning of the sociologist's method of analysis, a questioning of why certain defining categories persist (cf., Young, 1971; Corrigan, 1979).

If we hold to the view that schooling merely reproduces the existing social inequalities, then we are saying that educators are ineffective in producing change. But educators are not only transmitting knowledge. They are in the process of structuring future events. The school does not play an insignificant or even a secondary role in creating or sustaining social inequality. Rather, it is one of the major training centres for establishing criteria of judgement. For sociologists to argue that schools simply legitimate or reproduce the social class structure of our society is to underestimate the power which individuals have when they interact formally or informally in an educational setting, whether they are aware of it or not.

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PROGRAMME NATIONAL DE SOUTIEN AUX ÉTUDES CANADIENNES

Le Secrétariat d'État offre une aide financière aux particuliers et aux organismes qui souhaitent mettre en oeuvre des projets visant à promouvoir et à diffuser des ressources visant à mieux faire connaître le Canada.

Dans le cadre de son Programme national de soutien aux études canadiennes, notre ministère apporte son appui aux initiatives qui, par le biais des structures traditionnelles d'enseignement ou par d'autres moyens, ont pour objet d'aider les Canadiens à mieux se connaître. Vous pouvez ainsi obtenir des crédits pour financer des travaux de recherche, la conception et la diffusion de matériel didactique, le perfectionnement professionnel, l'organisation de colloques, etc. Les domaines qui nous intéressent en premier lieu sont le système politique, l'environnement, le système économique et les questions nationales d'actualité.

Nous accordons la priorité aux projets

. qui s'inscrivent dans une perspective pancanadienne ou intéressent plusieurs régions;

. qui contribuent à renforcer les liens entre les deux groupes de langue officielle.

. qui favorisent l'utilisation et la diffusion du matériel existant dans le domaine des études canadiennes.

On peut obtenir sur demande une brochure décrivant le programme. Toute demande d'aide ou de renseignements doit être adressée au

Programme d'études canadiennes
Direction générale des programmes
d'aide à l'éducation
Secrétariat d'État
Ottawa K1A 0M5
Tél.: (819) 994-1544

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PREPARATION OF MANUSCRIPTS

1. All manuscripts must be typewritten, double spaced, and submitted in duplicate. An abstract of approximately 100 words in length, typed on a separate page, should be provided.
2. Tables must be numbered in Arabic numerals with the word 'Table' centered and in capital letters, e.g., TABLE 4. The heading of the table is to be centered below and typed in capitals. The format of tables should conform to the specifications in the APA Publications Manual.
3. Graphs and charts should be used only if essential. They must be carefully prepared on separate sheets in India ink, ready for reproduction. Graphs must be properly labelled using Arabic numerals, e.g., Figure 3.
4. Each table or figure should be presented on a separate page. The position of tables and graphs should be clearly indicated within the text by inserting at the relevent point the phrase (Insert Table 2 here).
5. References should appear in parentheses following the reference citing the author's name (unless the name appears in the text), the year of publication, and page number if appropriate. For direct quotations, the reference should be cited and the page number given in brackets before the final punctuation of the quotation. The references should be listed alphabetically by authors' last names at the end of the manuscript under the heading, *References*.
6. Explanatory notes, numbered consecutively and identified in the text with a superscript, may be included under the heading of *Notes*. They should be double spaced and placed at the end of the manuscript immediately preceding the *References*. The citing of references and quotations in the *Notes* should conform to the procedures outlined in No. 5 above.
7. Spelling shall conform to the *Oxford English Dictionary* or to the *Dictionary of Canadian English,* except in the case of direct quotations which must conform to the original. Editorial alterations will be made if necessary.
8. In matters of style, the APA Publications Manual is considered definitive.

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